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	**Hewlett-Packard Company**
Applicant Address	3000 Hanover Street Palo Alto, California 94304 U.S.A.
FCC ID	**B94MRLBB1301**
Manufacturer's company	**Joy Technology (ShenZhen) Corporation**
Manufacturer Address	Building A,B,C,D, HengKeng Ind., Shangpai, Shangwu,Aiqun Rd., Shiyan Town,Shenzhen 518135 China

Product Name	802.11ac WLAN Radio Module
Brand Name	HP
Model No.	MRLBB-1301
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. 28, 2013
Final Test Date	Apr. 08, 2015
Submission Type	Class II Change

Statement

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

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

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

The measurements and test results shown in this test report were made in accordance with the procedures and found in compliance with the limit given in **ANSI C63.10-2013**, **47 CFR FCC Part 15 Subpart E, KDB789033 D02 v01, KDB662911 D01 v02r01, KDB644545 D03 v01.**

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

Testing Laboratory
1190

Table of Contents

History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR321924-07	Rev. 01	Initial issue of report	Apr. 29, 2015

1. VERIFICATION OF COMPLIANCE

Product Name	:	802.11ac WLAN Radio Module
Brand Name	:	HP
Model No.	:	MRLBB-1301
Applicant	:	Hewlett-Packard Company
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. 28, 2013 would like to declare that the tested sample has been evaluated and found to be in compliance with the tested rule parts. The data recorded as well as the test configuration specified is true and accurate for showing the sample's EMC nature.

Sam Chen
SPORTON INTERNATIONAL INC.

2. SUMMARY OF THE TEST RESULT

Applied Standard: 47 CFR FCC Part 15 Subpart E				
Part	**Rule Section**	**Description of Test**	**Result**	**Under Limit**
4.1	15.407(a)	26dB Spectrum Bandwidth and 99% Occupied Bandwidth	Complies	-
4.2	15.407(e)	6dB Spectrum Bandwidth	Complies	-
4.3	15.407(a)	Maximum Conducted Output Power	Complies	0.01 dB
4.4	15.407(a)	Power Spectral Density	Complies	0.01 dB
4.5	15.407(b)	Radiated Emissions	Complies	5.88 dB
4.6	15.407(b)	Band Edge Emissions	Complies	0.01 dB
4.7	15.407(g)	Frequency Stability	Complies	-
4.8	15.203	Antenna Requirements	Complies	-

3. GENERAL INFORMATION

3.1. Product Details

Items	Description
Product Type	WLAN (3TX, 3RX)
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 Band Width (99%)	Mode 1 (Ant. 1 Dipole antenna / 1dBi) Band 1: IEEE 802.11a: 21.88 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 20.76 MHz IEEE 802.11ac MCS0/Nss3 (VHT20): 19.44 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.48 MHz IEEE 802.11ac MCS0/Nss3 (VHT40): 40.96 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz IEEE 802.11ac MCS0/Nss3 (VHT80): 76.41 MHz Band 2: IEEE 802.11a: 21.88 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 23.44 MHz IEEE 802.11ac MCS0/Nss3 (VHT20): 19.10 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 38.06 MHz IEEE 802.11ac MCS0/Nss3 (VHT40): 37.05 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz IEEE 802.11ac MCS0/Nss3 (VHT80): 76.41 MHz Band 3: IEEE 802.11a: 19.45 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 19.88 MHz IEEE 802.11ac MCS0/Nss3 (VHT20): 18.49 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 41.68 MHz IEEE 802.11ac MCS0/Nss3 (VHT40): 38.93 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 80.46 MHz IEEE 802.11ac MCS0/Nss3 (VHT80): 76.99 MHz Band 4: IEEE 802.11a: 17.11 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 17.71 MHz IEEE 802.11ac MCS0/Nss3 (VHT20): 17.89 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.63 MHz IEEE 802.11ac MCS0/Nss3 (VHT40): 37.63 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.70 MHz IEEE 802.11ac MCS0/Nss3 (VHT80): 76.12 MHz

	Mode 2 (Ant. 3 Omnidirectional antenna / 6.7dBi) Band 1: IEEE 802.11a: 21.00 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 20.76 MHz IEEE 802.11ac MCS0/Nss3 (VHT20): 19.44 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.48 MHz IEEE 802.11ac MCS0/Nss3 (VHT40): 37.92 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.12 MHz IEEE 802.11ac MCS0/Nss3 (VHT80): 76.12 MHz Band 2: IEEE 802.11a: 16.93 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 17.80 MHz IEEE 802.11ac MCS0/Nss3 (VHT20): 18.32 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.63 MHz IEEE 802.11ac MCS0/Nss3 (VHT40): 40.23 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz IEEE 802.11ac MCS0/Nss3 (VHT80): 76.41 MHz Band 3: IEEE 802.11a: 16.85 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 17.71 MHz IEEE 802.11ac MCS0/Nss3 (VHT20): 18.15 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.34 MHz IEEE 802.11ac MCS0/Nss3 (VHT40): 37.48 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.99 MHz IEEE 802.11ac MCS0/Nss3 (VHT80): 76.70 MHz Band 4: IEEE 802.11a: 17.11 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 18.06 MHz IEEE 802.11ac MCS0/Nss3 (VHT20): 17.97 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.63 MHz IEEE 802.11ac MCS0/Nss3 (VHT40): 37.48 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz IEEE 802.11ac MCS0/Nss3 (VHT80): 76.41 MHz

	Mode 3 (Ant. 4 Panel antenna / 9.2dBi) Band 1: IEEE 802.11a: 21.00 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 19.36 MHz IEEE 802.11ac MCS0/Nss3 (VHT20): 19.44 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.05 MHz IEEE 802.11ac MCS0/Nss3 (VHT40): 37.05 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.70 MHz IEEE 802.11ac MCS0/Nss3 (VHT80): 76.12 MHz Band 2: IEEE 802.11a: 16.93 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 17.63 MHz IEEE 802.11ac MCS0/Nss3 (VHT20): 17.89 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.05 MHz IEEE 802.11ac MCS0/Nss3 (VHT40): 37.19 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.12 MHz IEEE 802.11ac MCS0/Nss3 (VHT80): 76.41 MHz Band 3: IEEE 802.11a: 16.85 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 17.71 MHz IEEE 802.11ac MCS0/Nss3 (VHT20): 17.97 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.05 MHz IEEE 802.11ac MCS0/Nss3 (VHT40): 37.19 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.70 MHz IEEE 802.11ac MCS0/Nss3 (VHT80): 76.41 MHz Band 4: IEEE 802.11a: 17.02 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 17.71 MHz IEEE 802.11ac MCS0/Nss3 (VHT20): 17.97 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.63 MHz IEEE 802.11ac MCS0/Nss3 (VHT40): 37.48 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.70 MHz IEEE 802.11ac MCS0/Nss3 (VHT80): 76.41 MHz

	Mode 4 (Ant. 5 PCB antenna / 5.74dBi) Band 1: IEEE 802.11a: 21.00 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 20.76 MHz IEEE 802.11ac MCS0/Nss3 (VHT20): 19.92 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 39.80 MHz IEEE 802.11ac MCS0/Nss3 (VHT40): 41.68 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz IEEE 802.11ac MCS0/Nss3 (VHT80): 76.41 MHz Band 2: IEEE 802.11a: 16.93 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 17.80 MHz IEEE 802.11ac MCS0/Nss3 (VHT20): 18.32 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 38.49 MHz IEEE 802.11ac MCS0/Nss3 (VHT40): 41.97 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz IEEE 802.11ac MCS0/Nss3 (VHT80): 76.12 MHz Band 3: IEEE 802.11a: 16.93 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 17.80 MHz IEEE 802.11ac MCS0/Nss3 (VHT20): 18.23 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.77 MHz IEEE 802.11ac MCS0/Nss3 (VHT40): 38.64 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 78.73 MHz IEEE 802.11ac MCS0/Nss3 (VHT80): 76.99 MHz Band 4: IEEE 802.11a: 19.02 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 18.84 MHz IEEE 802.11ac MCS0/Nss3 (VHT20): 18.41 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 38.78 MHz IEEE 802.11ac MCS0/Nss3 (VHT40): 38.49 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz IEEE 802.11ac MCS0/Nss3 (VHT80): 76.41 MHz

Maximum Conducted Output Power	Mode 1 (Ant. 1 Dipole antenna / 1dBi) Band 1: IEEE 802.11a: 23.99 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 24.08 dBm IEEE 802.11ac MCS0/Nss3 (VHT20): 24.09 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 20.94 dBm IEEE 802.11ac MCS0/Nss3 (VHT40): 23.79 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 15.29 dBm IEEE 802.11ac MCS0/Nss3 (VHT80): 16.90 dBm Band 2: IEEE 802.11a: 23.91 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 23.90 dBm IEEE 802.11ac MCS0/Nss3 (VHT20): 23.82 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 22.68 dBm IEEE 802.11ac MCS0/Nss3 (VHT40): 23.97 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 16.86 dBm IEEE 802.11ac MCS0/Nss3 (VHT80): 17.66 dBm Band 3: IEEE 802.11a: 23.93 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 23.85 dBm IEEE 802.11ac MCS0/Nss3 (VHT20): 23.90 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 23.87 dBm IEEE 802.11ac MCS0/Nss3 (VHT40): 23.94 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 21.96 dBm IEEE 802.11ac MCS0/Nss3 (VHT80): 21.73 dBm Band 4: IEEE 802.11a: 20.43 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 19.98 dBm IEEE 802.11ac MCS0/Nss3 (VHT20): 21.26 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 21.41 dBm IEEE 802.11ac MCS0/Nss3 (VHT40): 22.03 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 14.15 dBm IEEE 802.11ac MCS0/Nss3 (VHT80): 14.02 dBm

	Mode 2 (Ant. 3 Omnidirectional antenna / 6.7dBi) Band 1: IEEE 802.11a: 23.14 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 22.91 dBm IEEE 802.11ac MCS0/Nss3 (VHT20): 24.09 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 21.96 dBm IEEE 802.11ac MCS0/Nss3 (VHT40): 23.09 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 14.84 dBm IEEE 802.11ac MCS0/Nss3 (VHT80): 17.18 dBm Band 2: IEEE 802.11a: 18.78 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 19.11 dBm IEEE 802.11ac MCS0/Nss3 (VHT20): 23.17 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 21.97 dBm IEEE 802.11ac MCS0/Nss3 (VHT40): 23.11 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 16.45 dBm IEEE 802.11ac MCS0/Nss3 (VHT80): 17.10 dBm Band 3: IEEE 802.11a: 19.03 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 19.29 dBm IEEE 802.11ac MCS0/Nss3 (VHT20): 23.12 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 21.92 dBm IEEE 802.11ac MCS0/Nss3 (VHT40): 22.73 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 22.56 dBm IEEE 802.11ac MCS0/Nss3 (VHT80): 22.70 dBm Band 4: IEEE 802.11a: 21.70 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 22.90 dBm IEEE 802.11ac MCS0/Nss3 (VHT20): 22.25 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 22.58 dBm IEEE 802.11ac MCS0/Nss3 (VHT40): 22.64 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 14.21 dBm IEEE 802.11ac MCS0/Nss3 (VHT80): 14.97 dBm

	Mode 3 (Ant. 4 Panel antenna / 9.2dBi) Band 1: IEEE 802.11a: 24.10 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 23.92 dBm IEEE 802.11ac MCS0/Nss3 (VHT20): 24.09 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 18.23 dBm IEEE 802.11ac MCS0/Nss3 (VHT40): 19.86 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 13.02 dBm IEEE 802.11ac MCS0/Nss3 (VHT80): 14.08 dBm Band 2: IEEE 802.11a: 16.55 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 16.79 dBm IEEE 802.11ac MCS0/Nss3 (VHT20): 20.64 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 19.56 dBm IEEE 802.11ac MCS0/Nss3 (VHT40): 20.48 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 14.94 dBm IEEE 802.11ac MCS0/Nss3 (VHT80): 15.94 dBm Band 3: IEEE 802.11a: 16.47 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 16.79 dBm IEEE 802.11ac MCS0/Nss3 (VHT20): 20.57 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 19.36 dBm IEEE 802.11ac MCS0/Nss3 (VHT40): 20.56 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 20.74 dBm IEEE 802.11ac MCS0/Nss3 (VHT80): 20.79 dBm Band 4: IEEE 802.11a: 19.65 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 20.76 dBm IEEE 802.11ac MCS0/Nss3 (VHT20): 21.56 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 22.09 dBm IEEE 802.11ac MCS0/Nss3 (VHT40): 22.09 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 14.92 dBm IEEE 802.11ac MCS0/Nss3 (VHT80): 14.73 dBm

	Mode 4 (Ant. 5 PCB antenna / 5.74dBi) Band 1: IEEE 802.11a: 23.30 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 23.47 dBm IEEE 802.11ac MCS0/Nss3 (VHT20): 24.09 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 22.85 dBm IEEE 802.11ac MCS0/Nss3 (VHT40): 23.19 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 17.82 dBm IEEE 802.11ac MCS0/Nss3 (VHT80): 17.95 dBm Band 2: IEEE 802.11a: 19.54 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 19.99 dBm IEEE 802.11ac MCS0/Nss3 (VHT20): 23.91 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 23.06 dBm IEEE 802.11ac MCS0/Nss3 (VHT40): 23.70 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 18.08 dBm IEEE 802.11ac MCS0/Nss3 (VHT80): 18.28 dBm Band 3: IEEE 802.11a: 20.04 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 20.19 dBm IEEE 802.11ac MCS0/Nss3 (VHT20): 23.91 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 22.97 dBm IEEE 802.11ac MCS0/Nss3 (VHT40): 23.77 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 22.96 dBm IEEE 802.11ac MCS0/Nss3 (VHT80): 22.87 dBm Band 4: IEEE 802.11a: 23.99 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 24.35 dBm IEEE 802.11ac MCS0/Nss3 (VHT20): 23.97 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 23.26 dBm IEEE 802.11ac MCS0/Nss3 (VHT40): 23.36 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 16.81 dBm IEEE 802.11ac MCS0/Nss3 (VHT80): 17.09 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
Operating Mode	☐ Outdoor access point	
	☒ Indoor access point for Ant. 1, Ant. 2, Ant. 3 and Ant. 5	
	☒ Fixed point-to-point access points for Ant. 4	
	☐ Mobile and portable client devices	

Antenna and Band width

Antenna	Three (TX)		
Band width Mode	20 MHz	40 MHz	80MHz
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)	3	MCS 0-23
802.11n (HT40)	3	MCS 0-23
802.11ac (VHT20)	3	MCS 0-9/Nss1-3
802.11ac (VHT40)	3	MCS 0-9/Nss1-3
802.11ac (VHT80)	3	MCS 0-9/Nss1-3

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

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

Note 3: Modulation modes consist of below configuration:

11a: IEEE 802.11a, 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 No.	Type	Connector	Ant. Gain (dBi)		Cable Loss (dBm)		True Gain (dBi)		Remark
					2.4G	5G	2.4G	5G	2.4G	5G	
1	HP	5188-9334	Dipole Antenna	Reversed-SMA	1.8	2	0.6	1	1.2	1	P to M
2	HP	J9719A	Element Antenna	N Type	6	-	0.8	-	5.2	-	P to M
3	HP	J9720A	Omnidirectional Antenna	N Type	-	8	-	1.3	-	6.7	P to M
4	HP	J9170A	Panel Antenna	N Type	10.9	13.5	3.8	4.3	7.1	9.2	P to P
5	HP	5066-3481	PCB Antenna	I-PEX	4.94	5.74	0	0	4.94	5.74	P to M

Note: There are five sets of antenna provided to this EUT and all of them can be used as transmitting and receiving antenna

For 2.4GHz function:

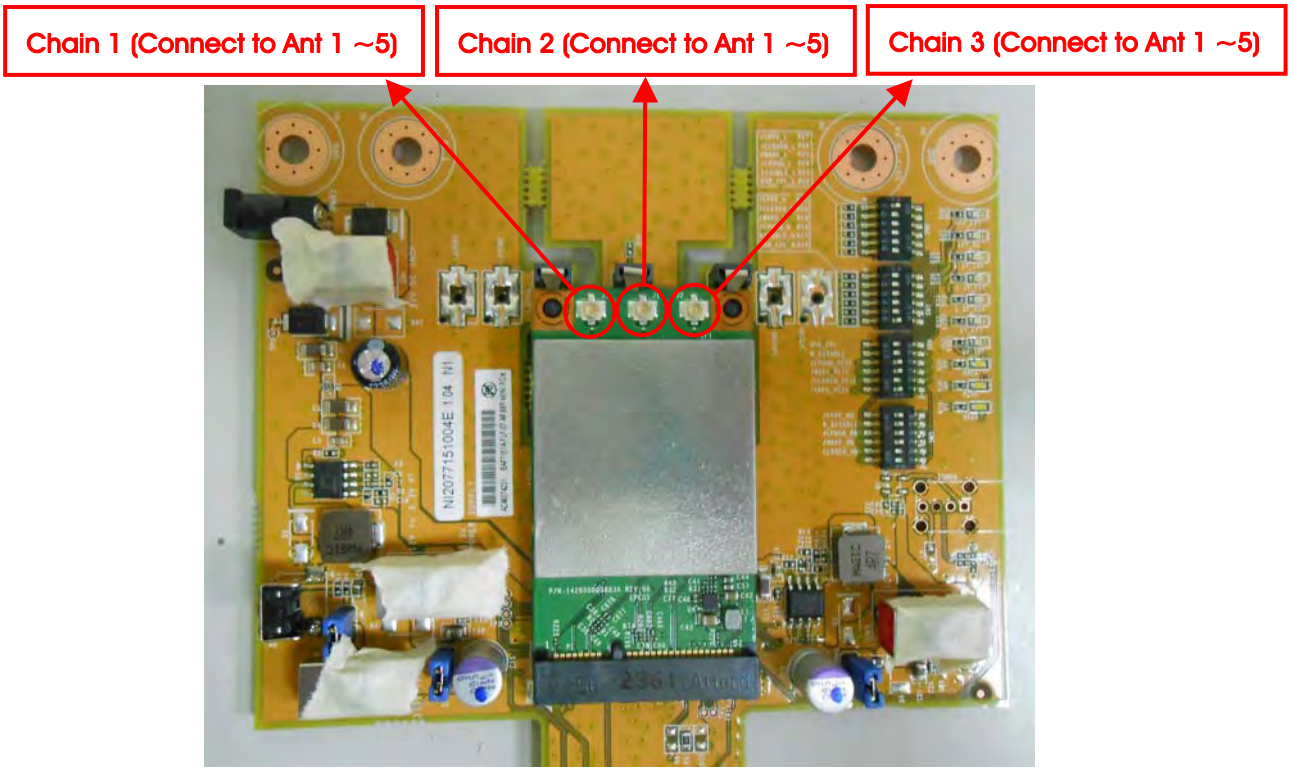
For IEEE 802.11b/g/n mode (3TX/3RX)

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

For 5GHz function:

For IEEE 802.11a/n/ac mode (3TX/3RX)

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



3.4. Table for Carrier Frequencies

There are three bandwidth systems.

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

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

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

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

3.5. Table for Test Modes

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

Test Items	Mode		Data Rate	Channel	Chain
Max. Conducted Output Power	11a/BPSK	Band 1~4	6Mbps	36/40/48/52/60/64/100/116/140/144/149/157/165	1+2+3
	11ac VHT20	Band 1~4	MCS0/Nss1	36/40/48/52/60/64/100/116/140/144/149/157/165	1+2+3
			MCS0/Nss3	36/40/48/52/60/64/100/116/140/144/149/157/165	1+2+3
	11ac VHT40	Band 1~4	MCS0/Nss1	38/46/54/62/102/110/134/142/151/159	1+2+3
			MCS0/Nss3	38/46/54/62/102/110/134/142/151/159	1+2+3
	11ac VHT80	Band 1~4	MCS0/Nss1	42/58/106/138/155	1+2+3
			MCS0/Nss3	42/58/106/122/138/155	1+2+3
Power Spectral Density	11a/BPSK	Band 1~4	6Mbps	36/40/48/52/60/64/100/116/140/144/149/157/165	1+2+3
	11ac VHT20	Band 1~4	MCS0/Nss1	36/40/48/52/60/64/100/116/140/144/149/157/165	1+2+3
			MCS0/Nss3	36/40/48/52/60/64/100/116/140/144/149/157/165	1+2+3
	11ac VHT40	Band 1~4	MCS0/Nss1	38/46/54/62/102/110/134/142/151/159	1+2+3
			MCS0/Nss3	38/46/54/62/102/110/134/142/151/159	1+2+3
	11ac VHT80	Band 1~4	MCS0/Nss1	42/58/106/122/138/155	1+2+3
			MCS0/Nss3	42/58/106/122/138/155	1+2+3

26dB Spectrum Bandwidth & 99% Occupied Bandwidth Measurement	11a/BPSK	Band 1~4	6Mbps	36/40/48/52/60/64/100/116/140/144/149/157/165	1+2+3
	11ac VHT20	Band 1~4	MCS0/Nss1	36/40/48/52/60/64/100/116/140/149/157/165	1+2+3
			MCS0/Nss3	36/40/48/52/60/64/100/116/140/149/157/165	1+2+3
	11ac VHT40	Band 1~4	MCS0/Nss1	38/46/54/62/102/110/134/142/151/159	1+2+3
			MCS0/Nss3	38/46/54/62/102/110/134/142/151/159	1+2+3
	11ac VHT80	Band 1~4	MCS0/Nss1	42/58/106/122/138/155	1+2+3
			MCS0/Nss3	42/58/106/122/138/155	1+2+3
6dB Spectrum Bandwidth Measurement	11a/BPSK	Band 4	6Mbps	144/149/157/165	1+2+3
	11ac VHT20	Band 4	MCS0/Nss1	144/149/157/165	1+2+3
			MCS0/Nss3	144/149/157/165	1+2+3
	11ac VHT40	Band 4	MCS0/Nss1	142/151/159	1+2+3
			MCS0/Nss3	142/151/159	1+2+3
	11ac VHT80	Band 4	MCS0/Nss1	138/155	1+2+3
			MCS0/Nss3	138/155	1+2+3
Radiated Emission Above 1GHz	11a/BPSK	Band 1~4	6Mbps	36/40/48/52/60/64/100/116/140/144/149/157/165	1+2+3
	11ac VHT20	Band 1~4	MCS0/Nss1	36/40/48/52/60/64/100/116/140/144/149/157/165/	1+2+3
			MCS0/Nss3	36/40/48/52/60/64/100/116/140/144/149/157/165/	1+2+3
	11ac VHT40	Band 1~4	MCS0/Nss1	38/46/54/62/102/110/134/142/151/159	1+2+3
			MCS0/Nss3	38/46/54/62/102/110/134/142/151/159	1+2+3
	11ac VHT80	Band 1~4	MCS0/Nss1	42/58/106/122/138/155	1+2+3
			MCS0/Nss3	42/58/106/122/138/155	1+2+3

Band Edge Emission	11a/BPSK	Band 1~4	6Mbps	36/40/48/52/60/64/100/140/149/157/165	1+2+3
	11ac VHT20	Band 1~4	MCS0/Nss1	36/40/48/52/60/64/100/140/149/157/165	1+2+3
			MCS0/Nss3	36/40/48/52/60/64/100/140/149/157/165	1+2+3
	11ac VHT40	Band 1~4	MCS0/Nss1	38/46/54/62/102/110/134/151/159	1+2+3
			MCS0/Nss3	38/46/54/62/102/110/134/151/159	1+2+3
	11ac VHT80	Band 1~4	MCS0/Nss1	42/58/106/122/138/155	1+2+3
			MCS0/Nss3	42/58/106/122/138/155	1+2+3
Frequency Stability	20 MHz	Band 1~4	-	40/60/116/157	1+2+3
	40 MHz	Band 1~4	-	38/62/110/151	1+2+3
	80 MHz	Band 1~4	-	42/58/106/155	1+2+3

Note: VHT20/VHT40 covers HT20/HT40, due to same modulation.

The following test modes were performed for all tests:

Mode 1 (Ant. 1 Dipole antenna / 1dBi)

Mode 2 (Ant. 3 Omnidirectional antenna / 6.7dBi)

Mode 3 (Ant. 4 Panel antenna / 9.2dBi)

Mode 4 (Ant. 5 PCB antenna / 5.74dBi)

3.6. Table for Testing Locations

Test Site Location					
Address:	No.8, Lane 724, Bo-ai St., Jhubei City, Hsinchu County 302, Taiwan, R.O.C.				
TEL:	886-3-656-9065				
FAX:	886-3-656-9085				
Test Site No.	**Site Category**	**Location**	**FCC Reg. No.**	**IC File No.**	**VCCI Reg. No**
03CH01-CB	SAC	Hsin Chu	262045	IC 4086D	-
TH01-CB	OVEN Room	Hsin Chu	-	-	-

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

3.7. Table for Class II Change

This product is an extension of original one reported under Sporton project number: FR321924-02

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

Modifications
1. Updating test rule of 5GHz band 1~4 (5150~5350MHz / 5470~5725MHz / 5725~5850 MHz) to "New Rules" from "Old Rules". 2. Adding weather band (5600~5650MHz) for this device.
Performance Checking
1. 26dB Spectrum Bandwidth and 99% Occupied Bandwidth. 2. 6dB Spectrum Bandwidth. 3. Maximum Conducted Output Power. 4. Power Spectral Density. 5. Radiated Emission Above 1GHz. 6. Band Edge Emissions. 7. Frequency Stability.

3.8. Table for Supporting Units

For Test Site No: 03CH01-CB

Support Unit	Brand	Model	FCC ID
Notebook	DELL	E6220	D2A62L1989V5
Fixture	ACCTON	AC46074246	N/A

For Test Site No: TH01-CB

Support Unit	Brand	Model	FCC ID
Notebook	DELL	M1340	E2K4965AGNM
Fixture	ACCTON	AC46074246	N/A

3.9. Table for Parameters of Test Software Setting

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

Mode 1 (Ant. 1 Dipole antenna / 1dBi)

Test Software Version	Manual Tool Version : 2.0.0.8												
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	60	56	80	78	59	57	57	80	67	80	59	64	63
802.11ac MCS0/Nss1 VHT20	60	58	80	78	60	58	58	80	66	80	57	62	62
802.11ac MCS0/Nss3 VHT20	64	63	80	79	74	74	80	79	68	79	62	64	66

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
	49	66	70	54	50	79	70	80	42	68
802.11ac MCS0/Nss3 VHT40	56	79	79	58	53	79	71	79	49	69

Mode	NCB: 80MHz					
802.11ac MCS0/Nss1 VHT80	5210 MHz	5290 MHz	5530 MHz	5610 MHz	5690 MHz	5775 MHz
	43	48	43	80	80	39
802.11ac MCS0/Nss3 VHT80	51	54	51	80	80	39

Mode 2 (Ant. 3 Omnidirectional antenna / 6.7dBi)

Test Software Version	Manual Tool Version : 2.0.0.8												
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	49	46	76	53	54	53	56	54	53	54	63	65	65
802.11ac MCS0/Nss1 VHT20	46	46	75	54	55	55	57	56	55	55	55	64	70
802.11ac MCS0/Nss3 VHT20	58	58	80	75	63	49	58	75	58	76	59	68	64

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
	44	67	67	47	48	67	65	68	40	68
802.11ac MCS0/Nss3 VHT40	50	73	76	51	50	71	64	76	43	69

Mode	NCB: 80MHz					
802.11ac MCS0/Nss1 VHT80	5210 MHz	5290 MHz	5530 MHz	5610 MHz	5690 MHz	5775 MHz
	39	45	39	72	80	34
802.11ac MCS0/Nss3 VHT80	50	49	45	74	76	38

Mode 3 (Ant. 4 Panel antenna / 9.2dBi)

Test Software Version	Manual Tool Version : 2.0.0.8												
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	32	33	76	43	46	44	40	44	39	43	58	58	59
802.11ac MCS0/Nss1 VHT20	38	39	75	43	45	45	42	44	48	44	59	60	63
802.11ac MCS0/Nss3 VHT20	45	41	80	65	53	50	52	65	47	65	55	65	68

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
	43	52	57	46	44	57	58	56	44	68
802.11ac MCS0/Nss3 VHT40	42	61	64	49	47	64	61	66	44	70

Mode	NCB: 80MHz					
802.11ac MCS0/Nss1 VHT80	5210 MHz	5290 MHz	5530 MHz	5610 MHz	5690 MHz	5775 MHz
	32	38	35	68	68	40
802.11ac MCS0/Nss3 VHT80	37	44	39	69	68	37

Mode 4 (Ant. 5 PCB antenna / 5.74dBi)

Test Software Version	Manual Tool Version : 2.0.0.8												
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	71	74	76	57	58	57	60	58	58	58	61	77	80
802.11ac MCS0/Nss1 VHT20	72	75	75	59	59	59	60	59	59	59	60	80	80
802.11ac MCS0/Nss3 VHT20	76	80	80	75	76	76	76	76	76	76	64	80	80

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
	54	74	72	54	51	71	71	71	48	76
802.11ac MCS0/Nss3 VHT40	56	78	78	58	55	80	80	80	52	80

Mode	NCB: 80MHz					
802.11ac MCS0/Nss1 VHT80	5210 MHz	5290 MHz	5530 MHz	5610 MHz	5690 MHz	5775 MHz
	52	52	46	80	80	46
802.11ac MCS0/Nss3 VHT80	54	55	51	80	80	48

3.10. EUT Operation during Test

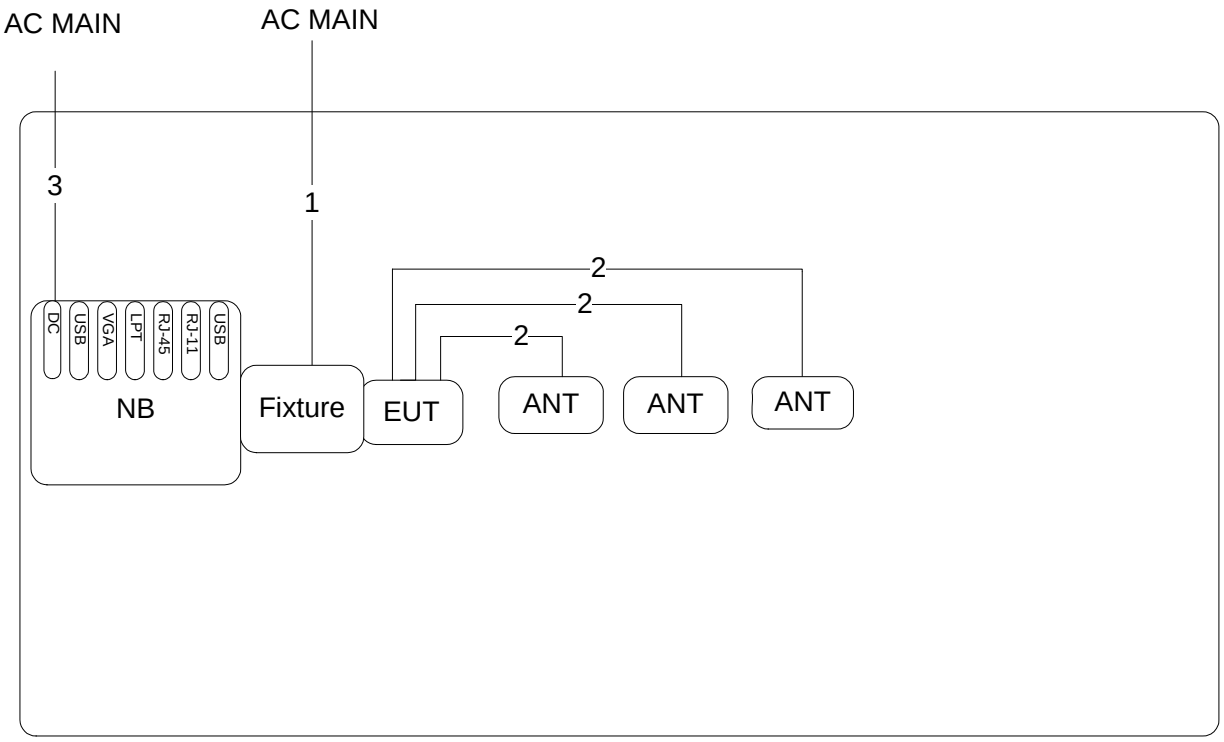
The EUT was programmed to be in continuously transmitting mode.

3.11. Duty Cycle

Mode	On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Minimum VBW (kHz)
802.11a	2.070	2.094	98.84	0.05	0.01
802.11ac MCS0/Nss1 VHT20	1.92	1.957	98.15	0.08	0.01
802.11ac MCS0/Nss3 VHT20	0.681	0.710	95.92	0.18	1.47
802.11ac MCS0/Nss1 VHT40	0.949	0.978	97.04	0.13	1.05
802.11ac MCS0/Nss3 VHT40	0.357	0.383	93.18	0.31	2.80
802.11ac MCS0/Nss1 VHT80	0.461	0.487	94.64	0.24	2.17
802.11ac MCS0/Nss3 VHT80	0.193	0.219	88.08	0.55	5.19

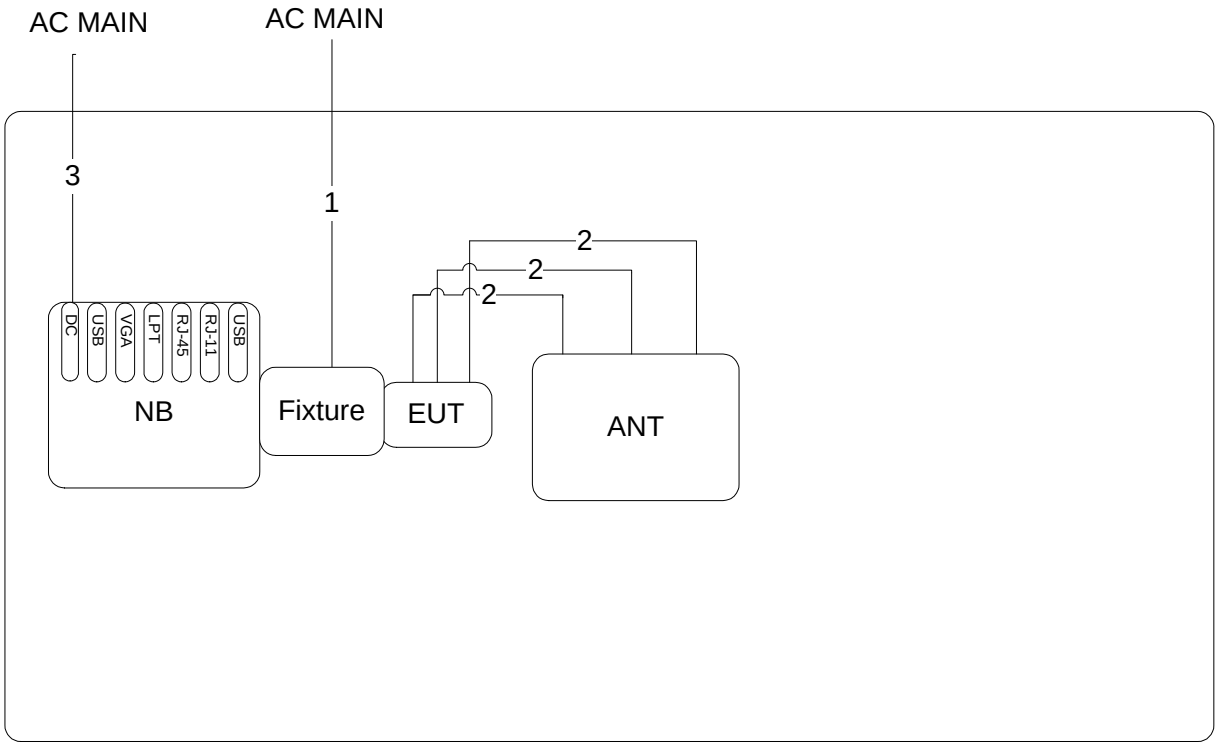
3.12. Test Configurations

Mode 1 (Ant. 1 Dipole antenna / 1dBi)



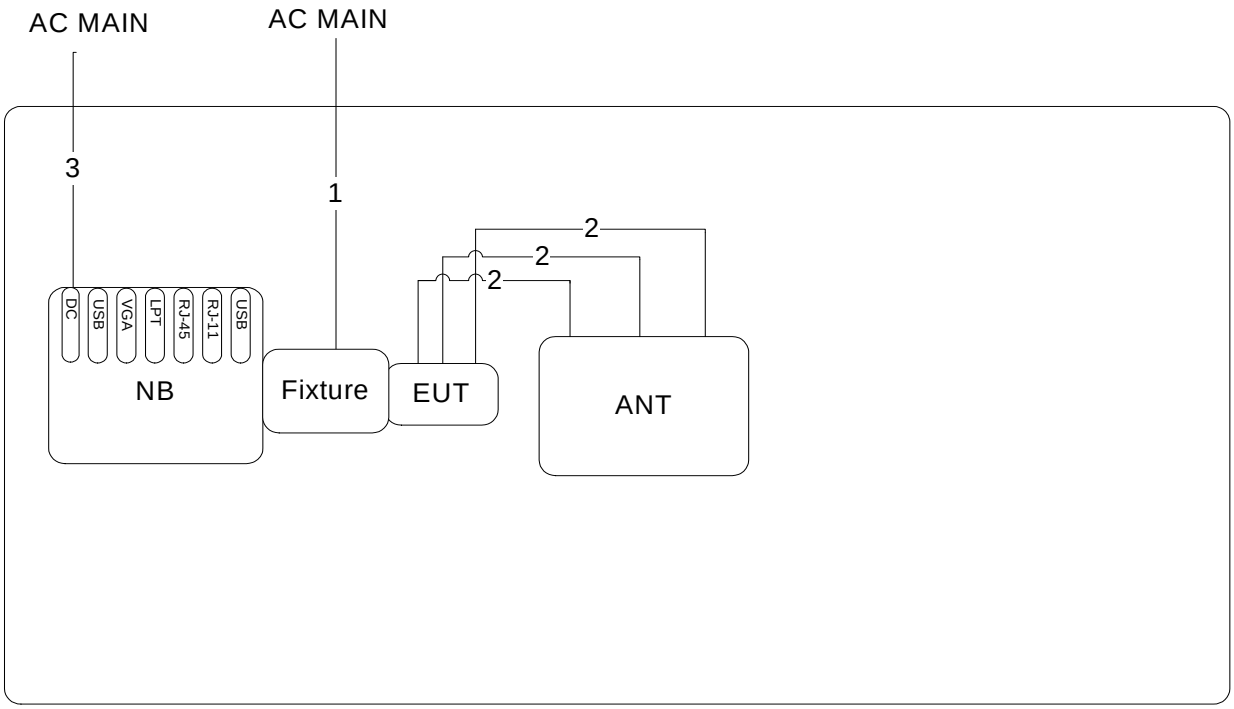
Item	Connection	Shielded	Length
1	Power cable	No	1.4m
2	RF cable	No	0.2m
3	Power cable	No	2.6m

Mode 2 (Ant. 3 Omnidirectional antenna / 6.7dBi)



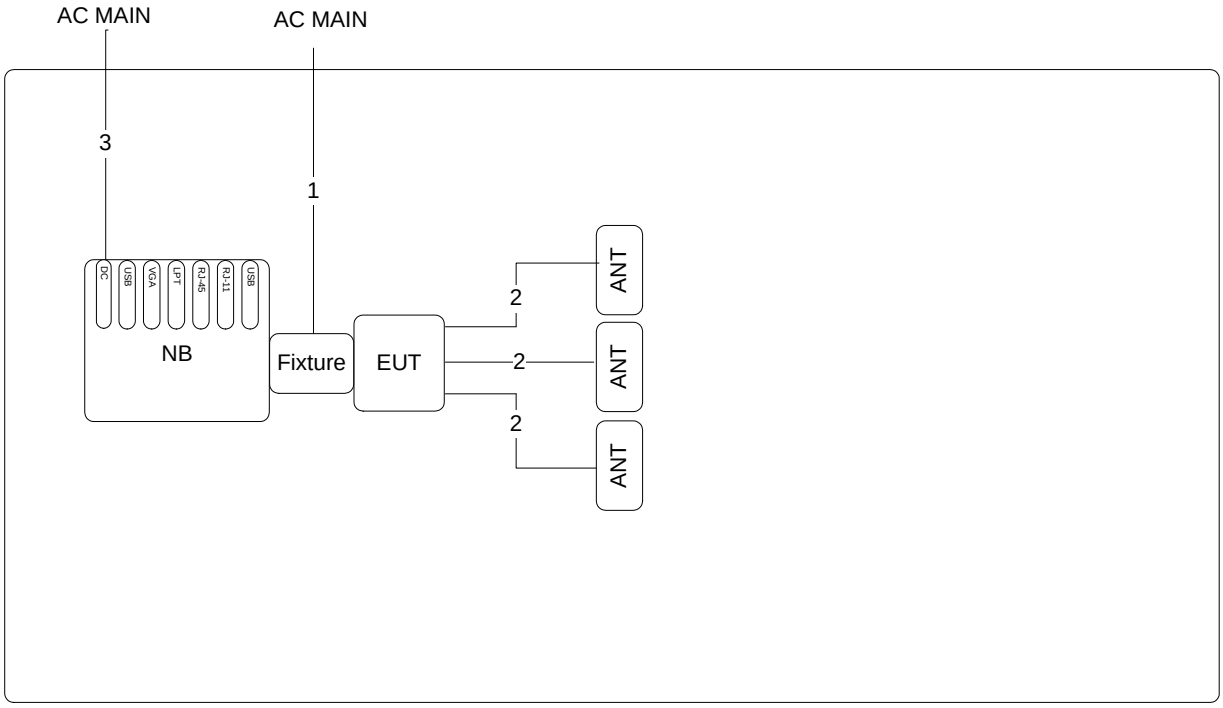
Item	Connection	Shielded	Length
1	Power cable	No	1.4m
2	RF cable	No	1.1m
3	Power cable	No	2.6m

Mode 3 (Ant. 4 Panel antenna / 9.2dBi)



Item	Connection	Shielded	Length
1	Power cable	No	1.4m
2	RF cable	No	1.05m
3	Power cable	No	2.6m

Mode 4 (Ant. 5 PCB antenna / 5.74dBi)



Item	Connection	Shielded	Length
1	Power cable	No	1.4m
2	RF cable	No	0.15m
3	Power cable	No	2.6m

4. TEST RESULT

4.1. 26dB Bandwidth and 99% Occupied Bandwidth Measurement

4.1.1. Limit

No restriction limits.

4.1.2. Measuring Instruments and Setting

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

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

4.1.3. Test Procedures

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

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

4.1.4. Test Setup Layout

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

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

4.1.5. Test Deviation

There is no deviation with the original standard.

4.1.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

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

Temperature	25°C	Humidity	56%
Test Engineer	Mars Lin	Test Mode	Mode 1 (Ant. 1 Dipole antenna / 1dBi)

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5180 MHz	19.83	16.93
	5200 MHz	19.74	16.93
	5240 MHz	32.70	21.88
	5260 MHz	33.13	21.53
	5300 MHz	19.65	16.93
	5320 MHz	19.65	16.93
	5500 MHz	19.57	16.93
	5580 MHz	31.74	19.45
	5700 MHz	22.96	17.19
	5745 MHz	19.65	16.93
	5785 MHz	22.96	17.02
	5825 MHz	20.00	17.11
802.11ac MCS0/Nss1 VHT20	5180 MHz	22.00	17.80
	5200 MHz	20.26	17.71
	5240 MHz	39.84	20.76
	5260 MHz	36.78	23.44
	5300 MHz	23.65	17.80
	5320 MHz	20.17	17.80
	5500 MHz	20.26	17.71
	5580 MHz	40.43	19.88
	5700 MHz	25.65	17.89
	5745 MHz	20.26	17.71
	5785 MHz	22.00	17.71
	5825 MHz	24.09	17.71

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11ac MCS0/Nss3 VHT20	5180 MHz	20.61	17.80
	5200 MHz	20.43	17.89
	5240 MHz	32.88	19.44
	5260 MHz	35.04	19.10
	5300 MHz	28.00	18.06
	5320 MHz	31.65	18.15
	5500 MHz	33.22	18.49
	5580 MHz	31.48	18.32
	5700 MHz	22.17	17.97
	5745 MHz	20.35	17.89
	5785 MHz	20.43	17.89
	5825 MHz	20.52	17.89
802.11ac MCS0/Nss1 VHT40	5190 MHz	40.29	37.05
	5230 MHz	63.33	37.48
	5270 MHz	75.51	38.06
	5310 MHz	40.58	37.05
	5510 MHz	40.73	37.05
	5550 MHz	76.52	41.68
	5670 MHz	70.44	37.48
	5755 MHz	40.44	37.05
	5795 MHz	70.58	37.63
802.11ac MCS0/Nss3 VHT40	5190 MHz	51.59	37.05
	5230 MHz	77.54	40.96
	5270 MHz	79.28	42.26
	5310 MHz	52.17	37.05
	5510 MHz	51.45	36.90
	5550 MHz	75.51	38.93
	5670 MHz	71.59	37.48
	5755 MHz	43.33	37.05
	5795 MHz	71.74	37.63

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11ac MCS0/Nss1 VHT80	5210 MHz	81.74	76.41
	5290 MHz	82.03	76.41
	5530 MHz	82.61	76.70
	5610 MHz	156.23	80.46
	5775 MHz	82.32	76.70
802.11ac MCS0/Nss3 VHT80	5210 MHz	82.03	76.41
	5290 MHz	82.03	76.41
	5530 MHz	82.32	76.41
	5610 MHz	168.99	76.99
	5775 MHz	82.32	76.12

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	24.78	19.88	5705.74	5709.23	19.26	5.52	15.77	4.12
802.11ac MCS0/Nss1 VHT20	5720 MHz	35.91	20.75	5701.65	5708.71	23.35	12.57	16.29	4.46
802.11ac MCS0/Nss3 VHT20	5720 MHz	31.83	18.32	5705.22	5710.71	19.78	12.04	14.29	4.03
802.11ac MCS0/Nss1 VHT40	5710 MHz	86.23	44.14	5666.23	5687.14	58.77	27.46	37.86	6.27
802.11ac MCS0/Nss3 VHT40	5710 MHz	72.03	38.35	5676.09	5690.61	48.91	23.12	34.39	3.96
802.11ac MCS0/Nss1 VHT80	5690 MHz	155.36	77.86	5612.32	5650.93	112.68	42.68	74.07	3.78
802.11ac MCS0/Nss3 VHT80	5690 MHz	140.58	76.99	5616.96	5651.51	108.04	32.54	73.49	3.49

Temperature	25°C	Humidity	56%
Test Engineer	Mars Lin	Test Mode	Mode 2 (Ant. 3 Omnidirectional antenna / 6.7dBi)

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5180 MHz	19.74	16.93
	5200 MHz	19.91	16.93
	5240 MHz	24.00	21.00
	5260 MHz	19.65	16.93
	5300 MHz	19.83	16.93
	5320 MHz	19.74	16.85
	5500 MHz	19.74	16.85
	5580 MHz	19.74	16.85
	5700 MHz	19.57	16.85
	5745 MHz	19.83	17.02
	5785 MHz	22.87	17.02
	5825 MHz	22.78	17.11
802.11ac MCS0/Nss1 VHT20	5180 MHz	20.26	17.63
	5200 MHz	20.26	17.63
	5240 MHz	39.84	20.76
	5260 MHz	20.26	17.71
	5300 MHz	20.43	17.63
	5320 MHz	20.26	17.80
	5500 MHz	20.35	17.71
	5580 MHz	20.35	17.71
	5700 MHz	20.26	17.71
	5745 MHz	20.26	17.71
	5785 MHz	22.00	17.71
	5825 MHz	27.83	18.06

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11ac MCS0/Nss3 VHT20	5180 MHz	20.26	17.89
	5200 MHz	20.26	17.89
	5240 MHz	32.88	19.44
	5260 MHz	31.57	18.32
	5300 MHz	20.78	17.89
	5320 MHz	20.26	17.89
	5500 MHz	20.35	17.89
	5580 MHz	27.22	18.15
	5700 MHz	20.26	17.89
	5745 MHz	20.61	17.89
	5785 MHz	20.78	17.97
	5825 MHz	20.26	17.89
802.11ac MCS0/Nss1 VHT40	5190 MHz	40.44	37.05
	5230 MHz	75.07	37.48
	5270 MHz	70.29	37.63
	5310 MHz	40.58	37.05
	5510 MHz	40.87	37.05
	5550 MHz	67.83	37.34
	5670 MHz	57.10	37.34
	5755 MHz	40.58	37.05
	5795 MHz	75.80	37.63
802.11ac MCS0/Nss3 VHT40	5190 MHz	43.19	36.90
	5230 MHz	75.22	37.92
	5270 MHz	76.73	40.23
	5310 MHz	43.33	36.90
	5510 MHz	43.19	36.90
	5550 MHz	71.30	37.48
	5670 MHz	53.62	37.05
	5755 MHz	42.90	36.90
	5795 MHz	71.30	37.48

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11ac MCS0/Nss1 VHT80	5210 MHz	82.03	76.12
	5290 MHz	81.74	76.41
	5530 MHz	82.03	76.41
	5610 MHz	145.80	76.99
	5775 MHz	81.74	76.41
802.11ac MCS0/Nss3 VHT80	5210 MHz	82.03	76.12
	5290 MHz	82.32	76.41
	5530 MHz	82.32	76.41
	5610 MHz	124.93	76.70
	5775 MHz	82.61	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)
802.11a	5720 MHz	19.57	16.85	5710.43	5711.84	14.57	5.00	13.16	3.68
802.11ac MCS0/Nss1 VHT20	5720 MHz	20.17	17.63	5709.74	5710.97	15.26	4.91	14.03	3.60
802.11ac MCS0/Nss3 VHT20	5720 MHz	28.96	18.23	5704.61	5710.80	20.39	8.57	14.20	4.03
802.11ac MCS0/Nss1 VHT40	5710 MHz	64.78	37.34	5676.81	5691.19	48.19	16.59	33.81	3.52
802.11ac MCS0/Nss3 VHT40	5710 MHz	75.36	38.06	5672.75	5690.90	52.25	23.12	34.10	3.96
802.11ac MCS0/Nss1 VHT80	5690 MHz	155.36	77.86	5612.32	5650.93	112.68	42.68	74.07	3.78
802.11ac MCS0/Nss3 VHT80	5690 MHz	120.87	76.70	5630.87	5651.80	94.13	26.74	73.20	3.50

Temperature	25°C	Humidity	56%
Test Engineer	Mars Lin	Test Mode	Mode 3 (Ant. 4 Panel antenna / 9.2dBi)

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5180 MHz	19.65	16.93
	5200 MHz	19.74	16.85
	5240 MHz	24.00	21.00
	5260 MHz	19.65	16.93
	5300 MHz	19.48	16.93
	5320 MHz	19.83	16.93
	5500 MHz	19.65	16.85
	5580 MHz	19.83	16.85
	5700 MHz	19.74	16.85
	5745 MHz	19.65	16.93
	5785 MHz	19.57	16.93
	5825 MHz	19.65	17.02
802.11ac MCS0/Nss1 VHT20	5180 MHz	20.26	17.80
	5200 MHz	20.09	17.63
	5240 MHz	36.26	19.36
	5260 MHz	20.17	17.63
	5300 MHz	20.26	17.63
	5320 MHz	20.35	17.63
	5500 MHz	20.35	17.63
	5580 MHz	20.26	17.71
	5700 MHz	20.35	17.71
	5745 MHz	20.17	17.71
	5785 MHz	20.26	17.71
	5825 MHz	24.00	17.71

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11ac MCS0/Nss3 VHT20	5180 MHz	20.26	17.80
	5200 MHz	20.17	17.89
	5240 MHz	32.88	19.44
	5260 MHz	20.43	17.89
	5300 MHz	20.26	17.89
	5320 MHz	20.09	17.89
	5500 MHz	20.17	17.80
	5580 MHz	20.70	17.97
	5700 MHz	20.43	17.89
	5745 MHz	20.17	17.89
	5785 MHz	20.52	17.89
	5825 MHz	22.17	17.97
802.11ac MCS0/Nss1 VHT40	5190 MHz	40.58	37.05
	5230 MHz	40.58	37.05
	5270 MHz	43.91	37.05
	5310 MHz	40.44	37.05
	5510 MHz	40.87	37.05
	5550 MHz	40.44	37.05
	5670 MHz	40.44	37.05
	5755 MHz	40.58	37.05
	5795 MHz	69.57	37.63
802.11ac MCS0/Nss3 VHT40	5190 MHz	40.44	36.90
	5230 MHz	52.17	37.05
	5270 MHz	62.32	37.19
	5310 MHz	43.04	36.90
	5510 MHz	42.90	36.90
	5550 MHz	54.20	37.19
	5670 MHz	52.46	37.05
	5755 MHz	42.90	36.90
	5795 MHz	71.59	37.48

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11ac MCS0/Nss1 VHT80	5210 MHz	82.03	76.70
	5290 MHz	82.03	76.12
	5530 MHz	82.03	76.41
	5610 MHz	115.36	76.70
	5775 MHz	82.03	76.70
802.11ac MCS0/Nss3 VHT80	5210 MHz	81.74	76.12
	5290 MHz	82.03	76.41
	5530 MHz	82.03	76.41
	5610 MHz	108.70	76.12
	5775 MHz	82.61	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)
802.11a	5720 MHz	19.48	16.85	5710.43	5711.84	14.57	4.91	13.16	3.68
802.11ac MCS0/Nss1 VHT20	5720 MHz	20.35	17.71	5709.74	5710.97	15.26	5.09	14.03	3.68
802.11ac MCS0/Nss3 VHT20	5720 MHz	20.43	17.89	5709.65	5710.97	15.35	5.09	14.03	3.86
802.11ac MCS0/Nss1 VHT40	5710 MHz	40.58	37.05	5689.57	5691.33	35.44	5.14	33.67	3.38
802.11ac MCS0/Nss3 VHT40	5710 MHz	62.46	37.19	5676.96	5691.48	48.04	14.42	33.52	3.67
802.11ac MCS0/Nss1 VHT80	5690 MHz	115.65	76.41	5632.03	5651.80	92.97	22.68	73.20	3.21
802.11ac MCS0/Nss3 VHT80	5690 MHz	95.36	76.12	5637.25	5652.08	87.75	7.61	72.92	3.20

Temperature	25°C	Humidity	56%
Test Engineer	Mars Lin	Test Mode	Mode 4 (Ant. 5 PCB antenna / 5.74dBi)

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5180 MHz	23.88	18.12
	5200 MHz	23.76	20.28
	5240 MHz	24.00	21.00
	5260 MHz	19.74	16.93
	5300 MHz	19.65	16.93
	5320 MHz	19.83	16.93
	5500 MHz	19.74	16.93
	5580 MHz	19.74	16.85
	5700 MHz	19.65	16.93
	5745 MHz	19.65	17.02
	5785 MHz	24.43	19.02
	5825 MHz	24.00	18.58
802.11ac MCS0/Nss1 VHT20	5180 MHz	31.32	19.08
	5200 MHz	35.64	20.76
	5240 MHz	39.84	20.76
	5260 MHz	20.26	17.80
	5300 MHz	20.87	17.80
	5320 MHz	21.65	17.80
	5500 MHz	20.26	17.71
	5580 MHz	21.39	17.71
	5700 MHz	21.91	17.80
	5745 MHz	21.83	17.80
	5785 MHz	34.87	18.84
	5825 MHz	32.61	18.76

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11ac MCS0/Nss3 VHT20	5180 MHz	32.17	18.32
	5200 MHz	33.48	19.92
	5240 MHz	32.88	19.44
	5260 MHz	32.61	18.32
	5300 MHz	31.30	18.32
	5320 MHz	32.61	18.41
	5500 MHz	28.17	18.15
	5580 MHz	31.22	18.15
	5700 MHz	27.57	18.23
	5745 MHz	20.52	17.89
	5785 MHz	31.65	18.41
	5825 MHz	31.48	18.23
802.11ac MCS0/Nss1 VHT40	5190 MHz	40.58	37.05
	5230 MHz	75.80	39.80
	5270 MHz	75.22	38.49
	5310 MHz	43.33	37.05
	5510 MHz	40.73	37.05
	5550 MHz	70.87	37.77
	5670 MHz	70.73	37.77
	5755 MHz	40.44	37.05
	5795 MHz	80.15	38.78
802.11ac MCS0/Nss3 VHT40	5190 MHz	51.74	36.90
	5230 MHz	76.67	41.68
	5270 MHz	77.25	41.97
	5310 MHz	52.32	37.19
	5510 MHz	51.74	36.90
	5550 MHz	75.94	38.64
	5670 MHz	72.17	38.21
	5755 MHz	51.45	36.90
	5795 MHz	75.65	38.49

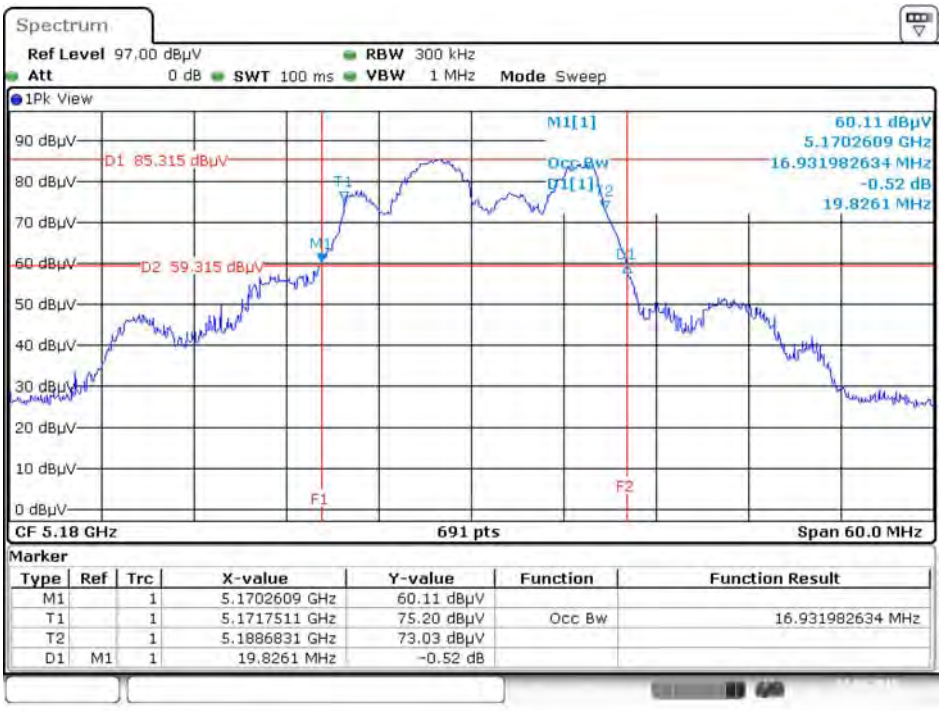
Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11ac MCS0/Nss1 VHT80	5210 MHz	82.03	76.41
	5290 MHz	81.74	76.41
	5530 MHz	81.74	76.41
	5610 MHz	162.32	78.73
	5775 MHz	82.03	76.41
802.11ac MCS0/Nss3 VHT80	5210 MHz	82.03	76.41
	5290 MHz	81.74	76.12
	5530 MHz	82.61	76.41
	5610 MHz	166.38	76.99
	5775 MHz	82.61	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)
802.11a	5720 MHz	19.65	16.93	5710.35	5711.75	14.65	5.00	13.25	3.68
802.11ac MCS0/Nss1 VHT20	5720 MHz	21.74	17.71	5708.17	5710.97	16.83	4.91	14.03	3.68
802.11ac MCS0/Nss3 VHT20	5720 MHz	28.96	18.23	5704.61	5710.80	20.39	8.57	14.20	4.03
802.11ac MCS0/Nss1 VHT40	5710 MHz	75.22	37.77	5671.74	5690.90	53.26	21.96	34.10	3.67
802.11ac MCS0/Nss3 VHT40	5710 MHz	78.55	40.81	5669.86	5688.44	55.15	23.41	36.56	4.25
802.11ac MCS0/Nss1 VHT80	5690 MHz	155.36	77.86	5612.32	5650.93	112.68	42.68	74.07	3.78
802.11ac MCS0/Nss3 VHT80	5690 MHz	140.58	76.99	5616.96	5651.51	108.04	32.54	73.49	3.49

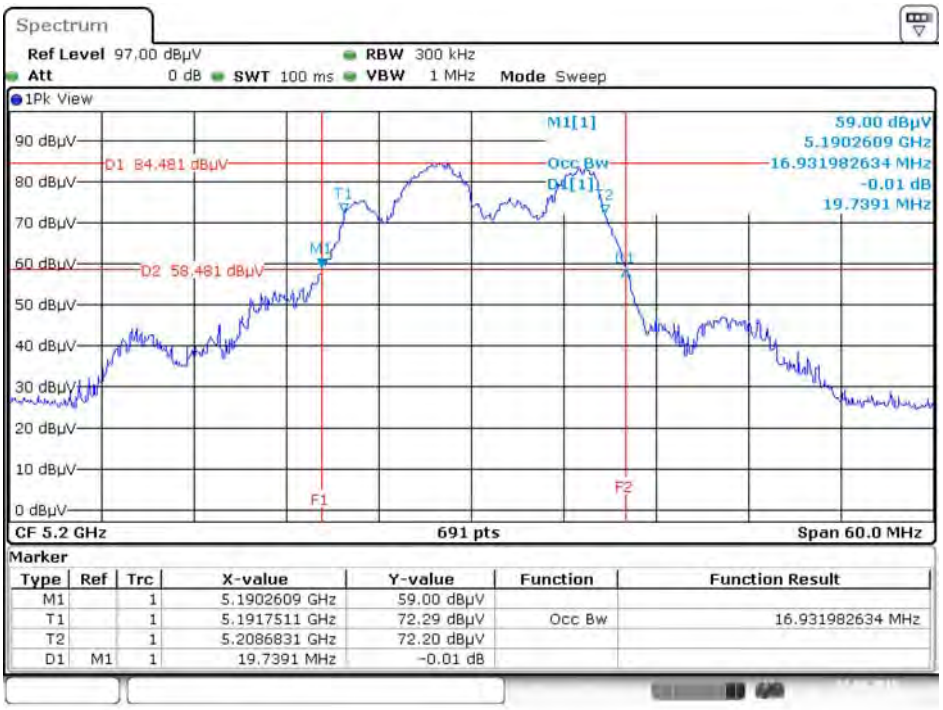
Mode 1 (Ant. 1 Dipole antenna / 1dBi)

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



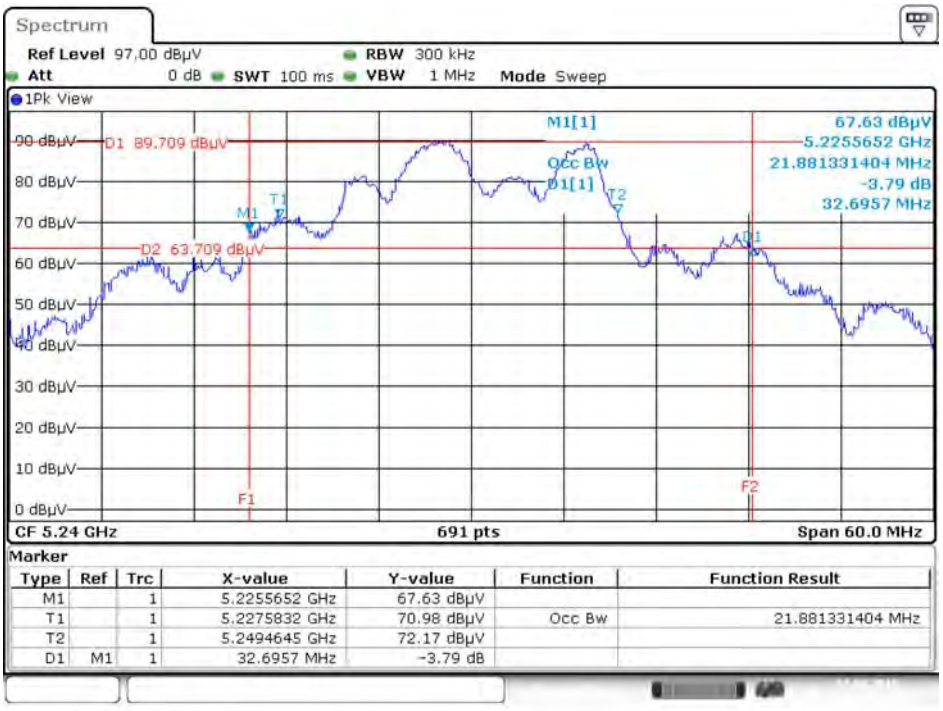
Date: 23.MAR.2015 21:58:23

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



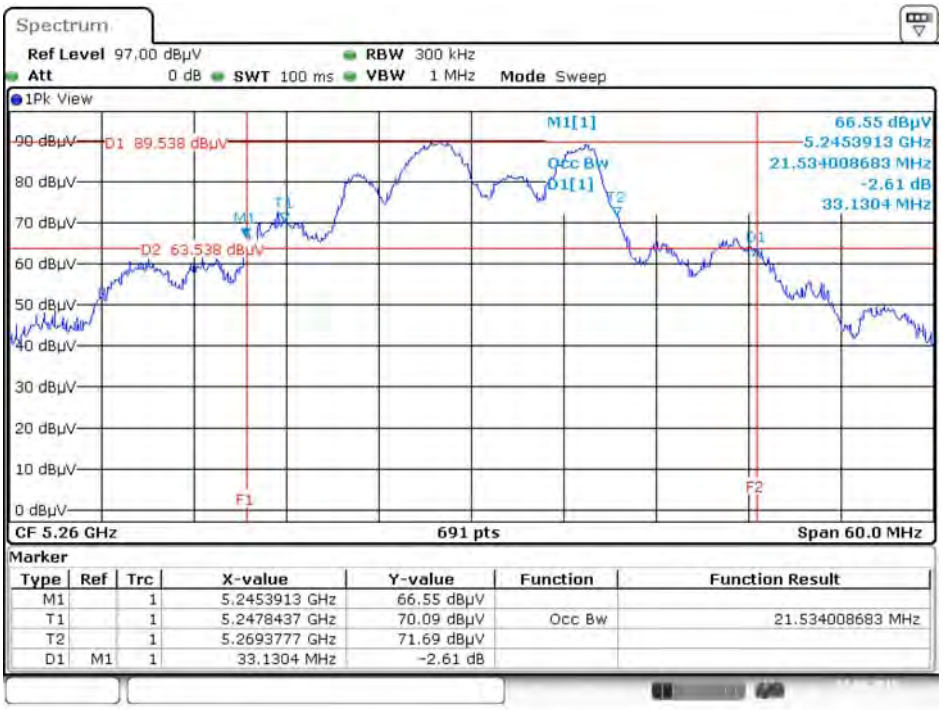
Date: 23.MAR.2015 21:59:26

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



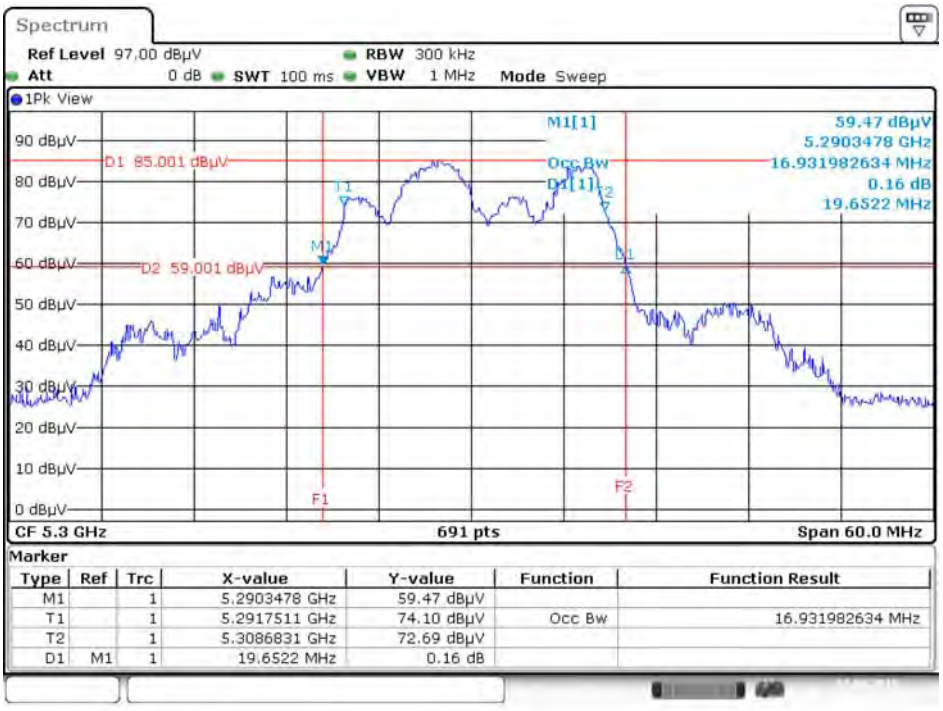
Date: 23.MAR.2015 22:00:11

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



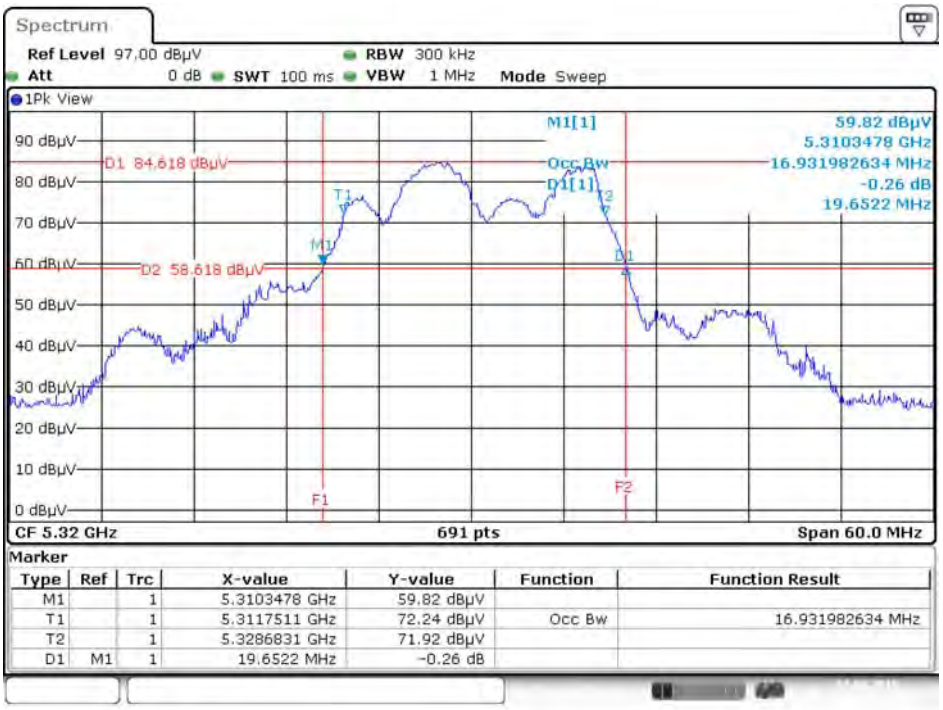
Date: 23.MAR.2015 22:00:46

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



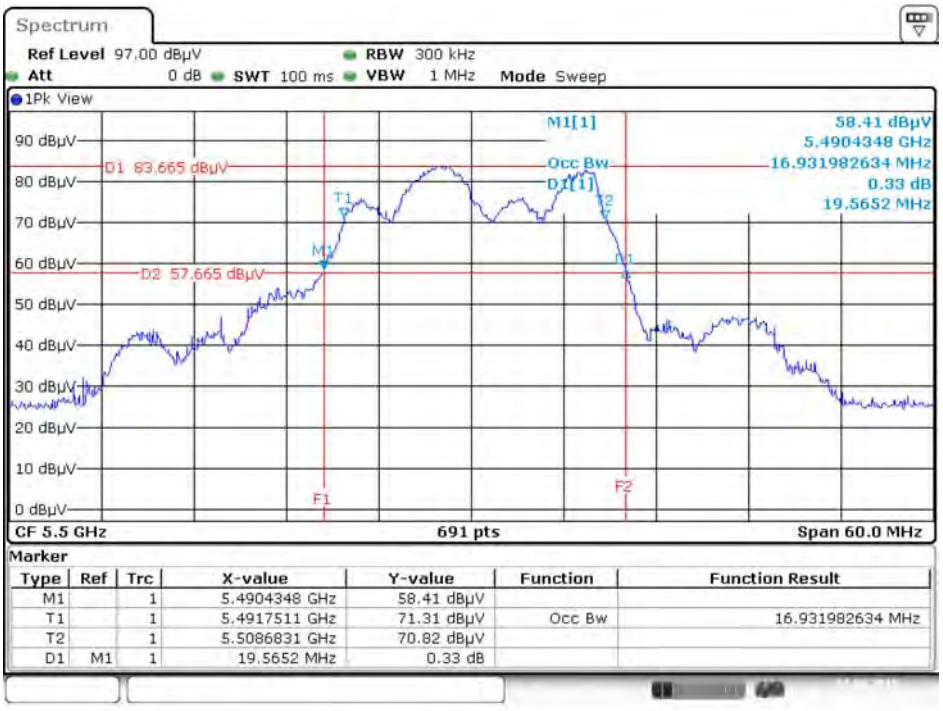
Date: 23.MAR.2015 22:01:55

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



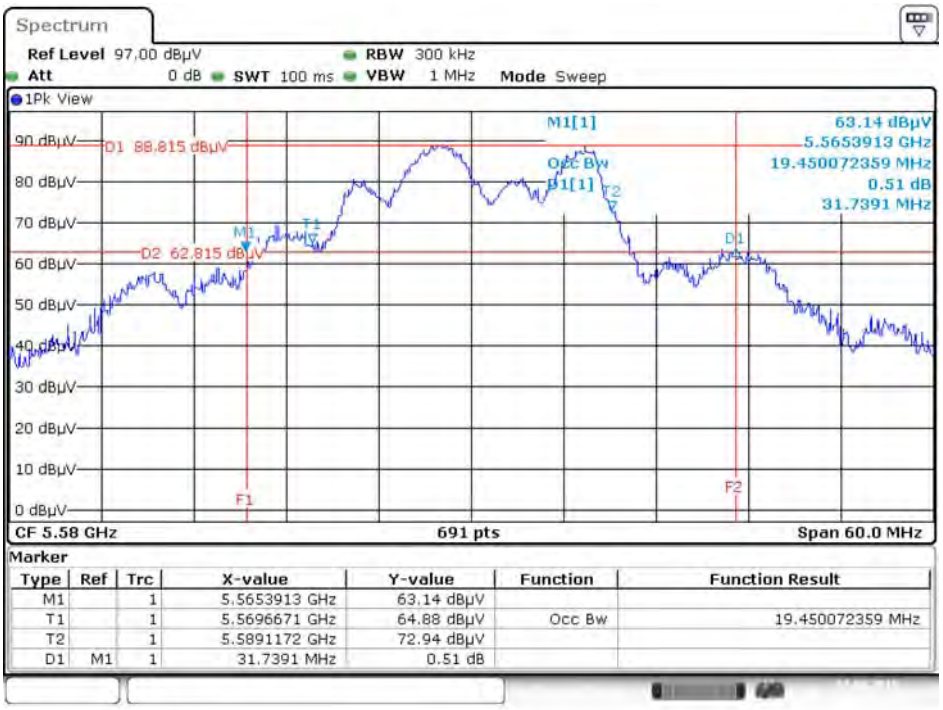
Date: 23.MAR.2015 22:02:25

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



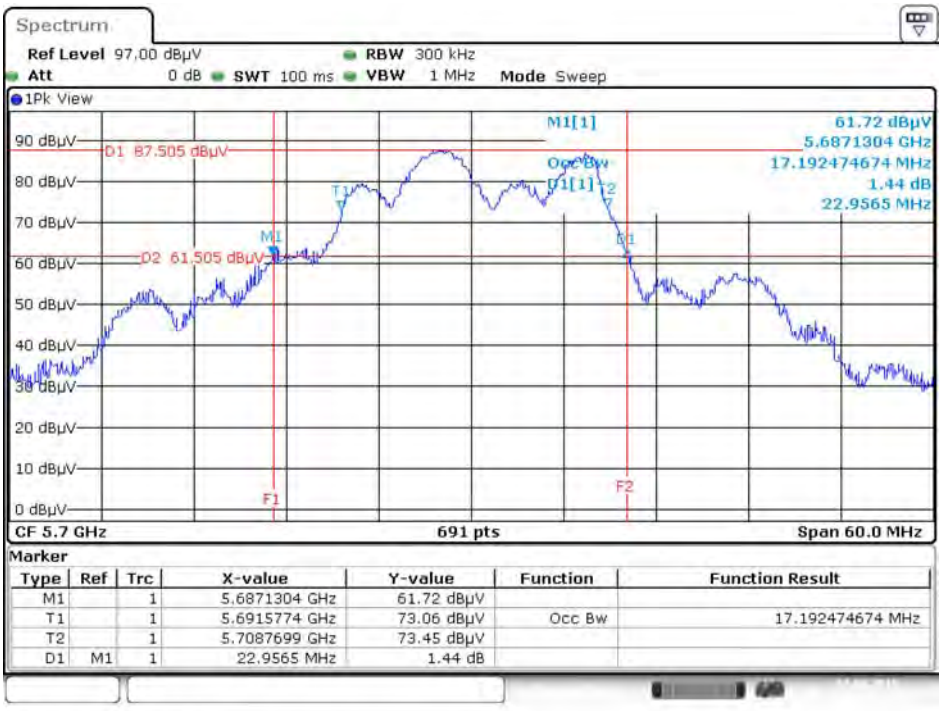
Date: 23.MAR.2015 22:03:22

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



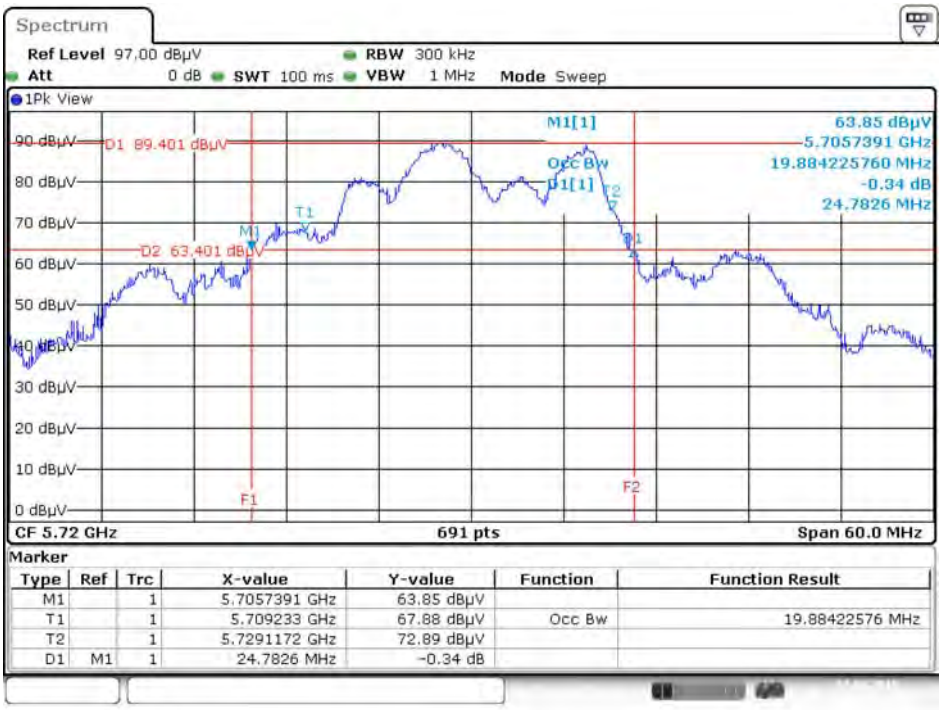
Date: 23.MAR.2015 22:03:48

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



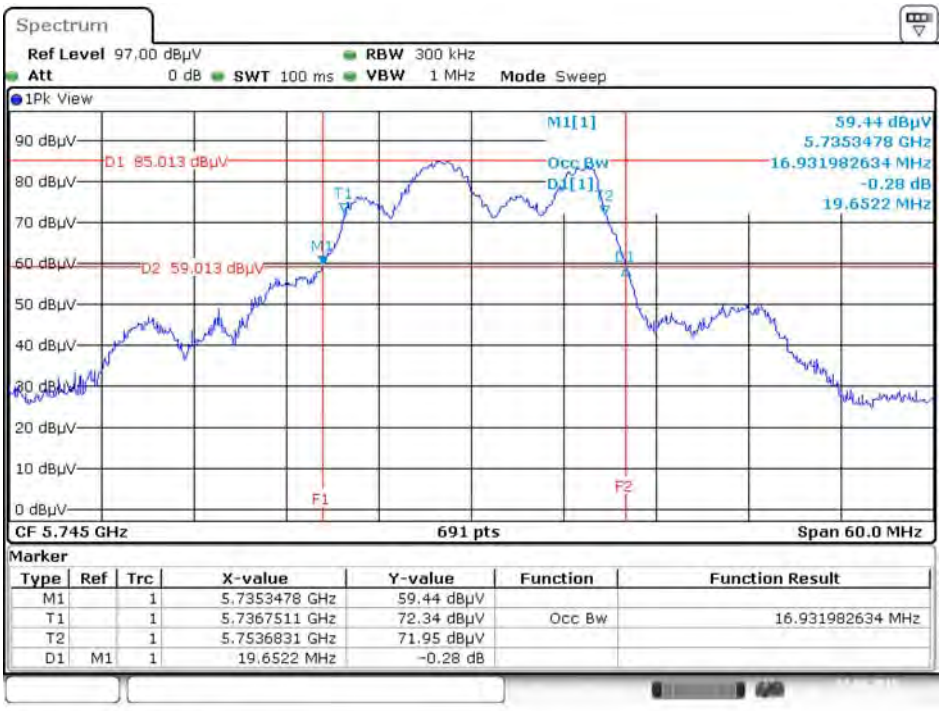
Date: 23.MAR.2015 22:05:48

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



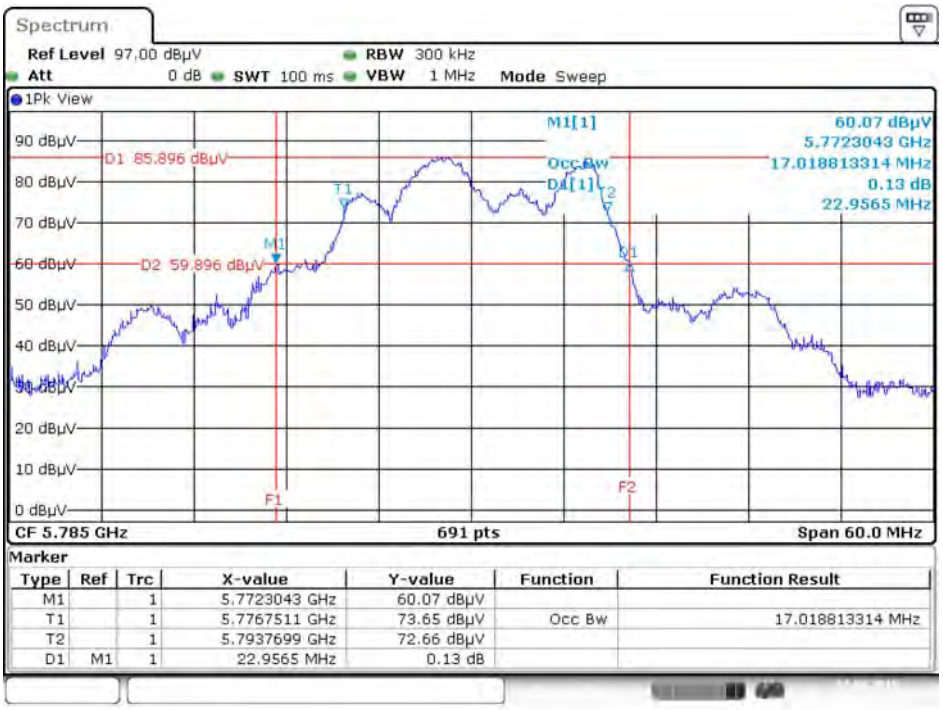
Date: 23.MAR.2015 22:40:24

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



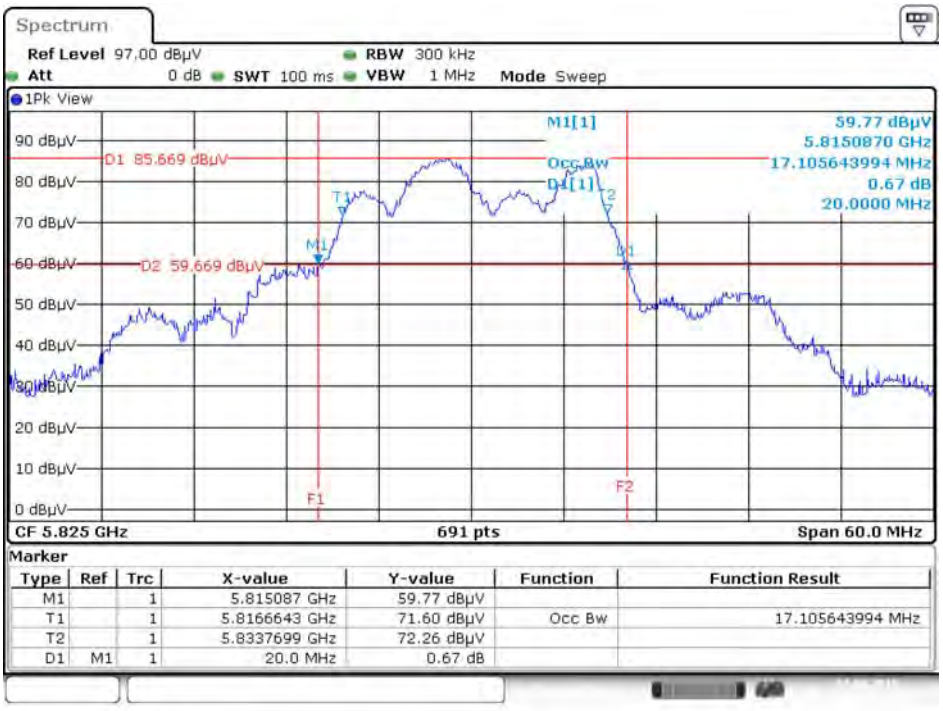
Date: 23.MAR.2015 22:05:01

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



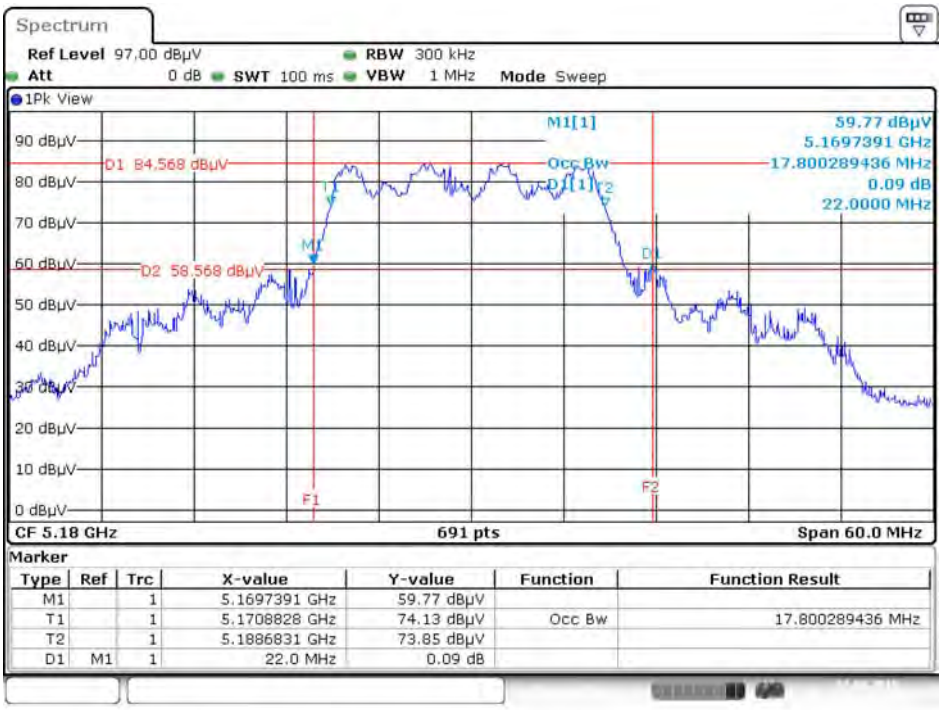
Date: 23.MAR.2015 22:06:22

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



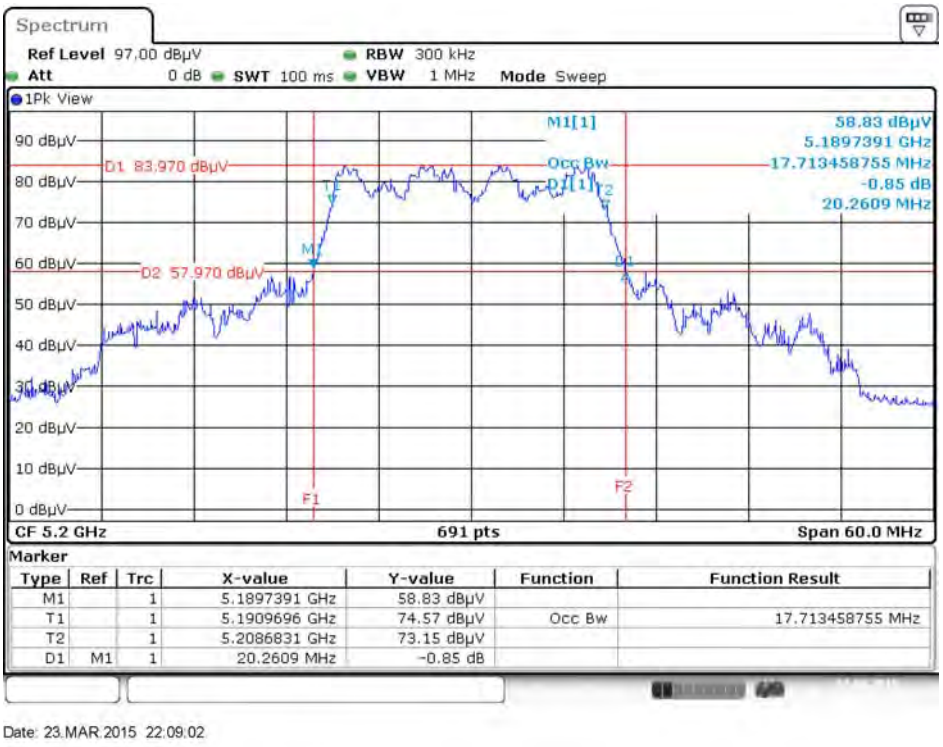
Date: 23.MAR.2015 22:06:59

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

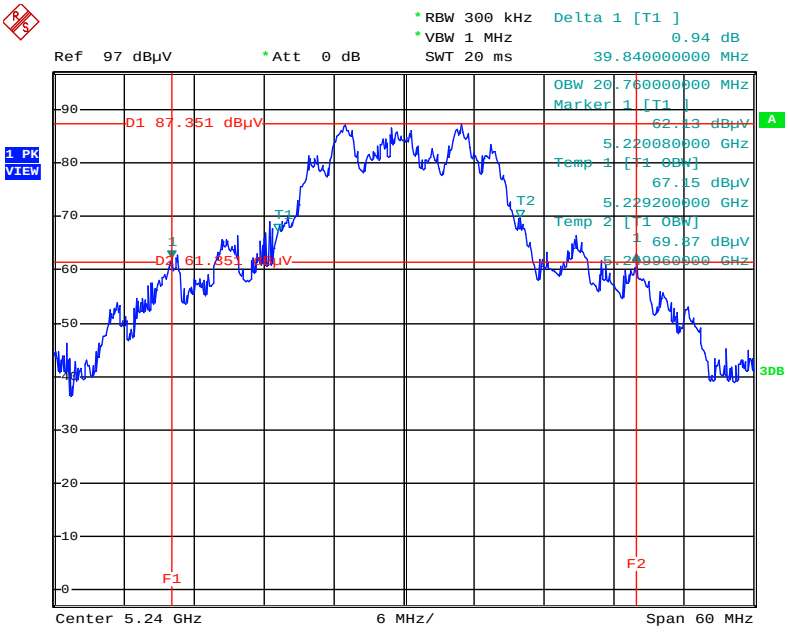


Date: 23.MAR.2015 22:08:17

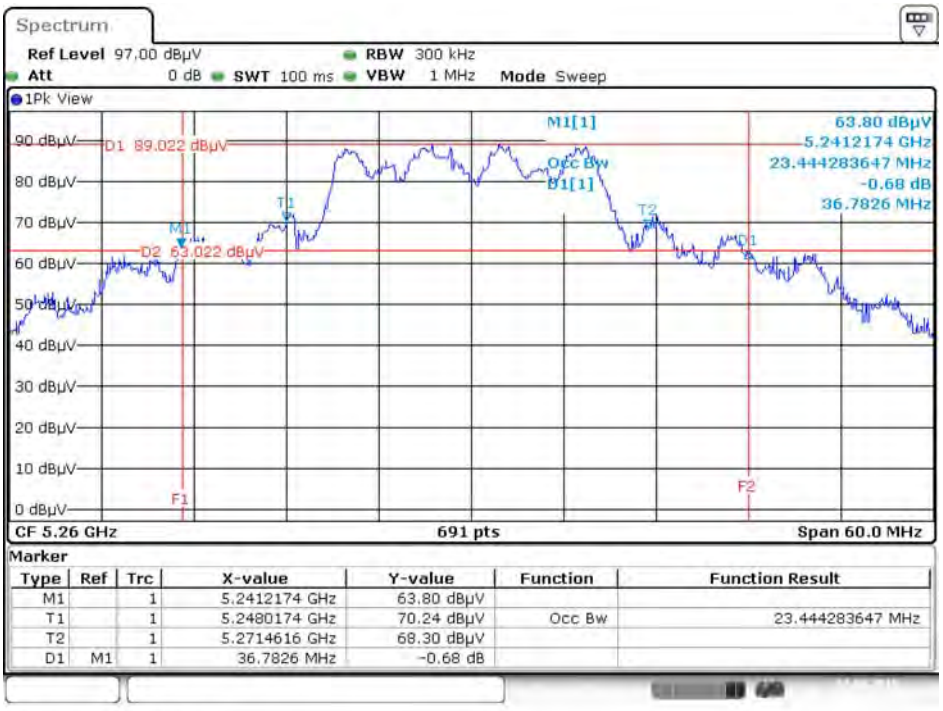
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5200 MHz



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

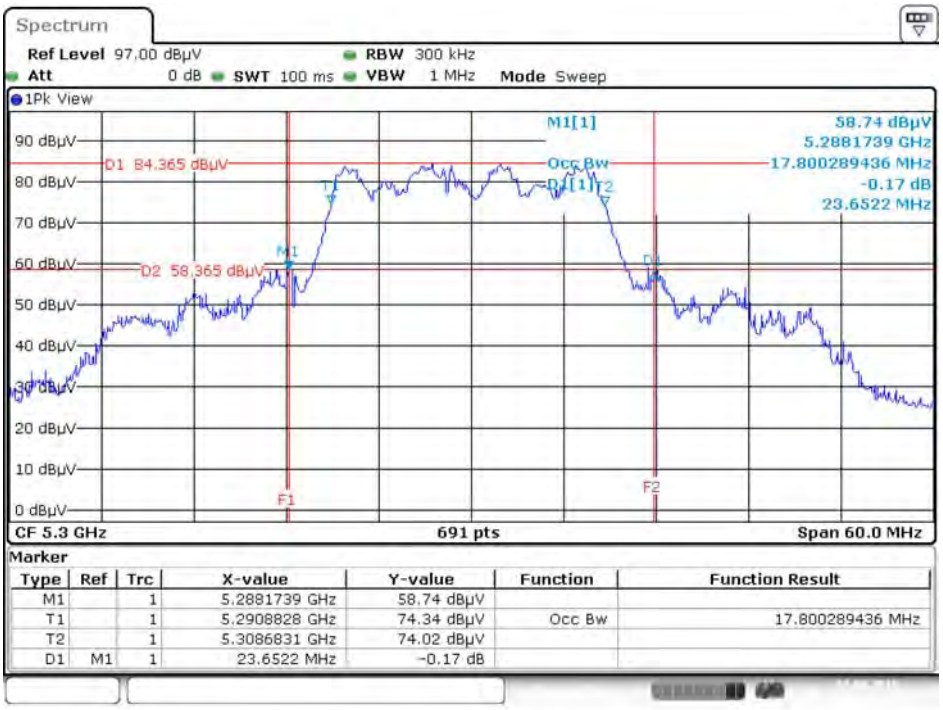


26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5260 MHz



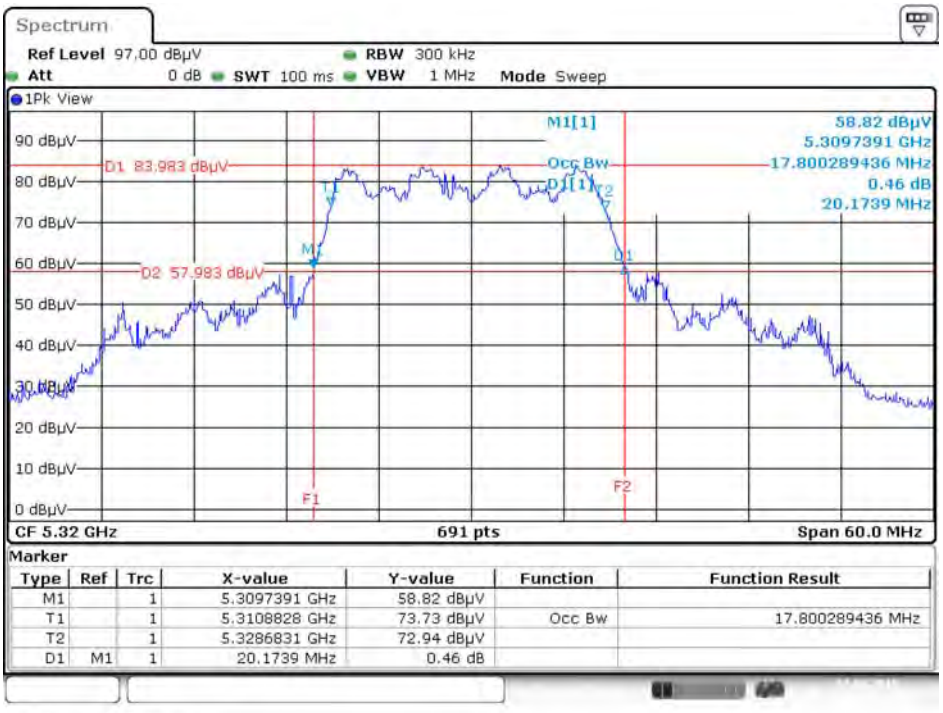
Date: 23.MAR.2015 22:10:09

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



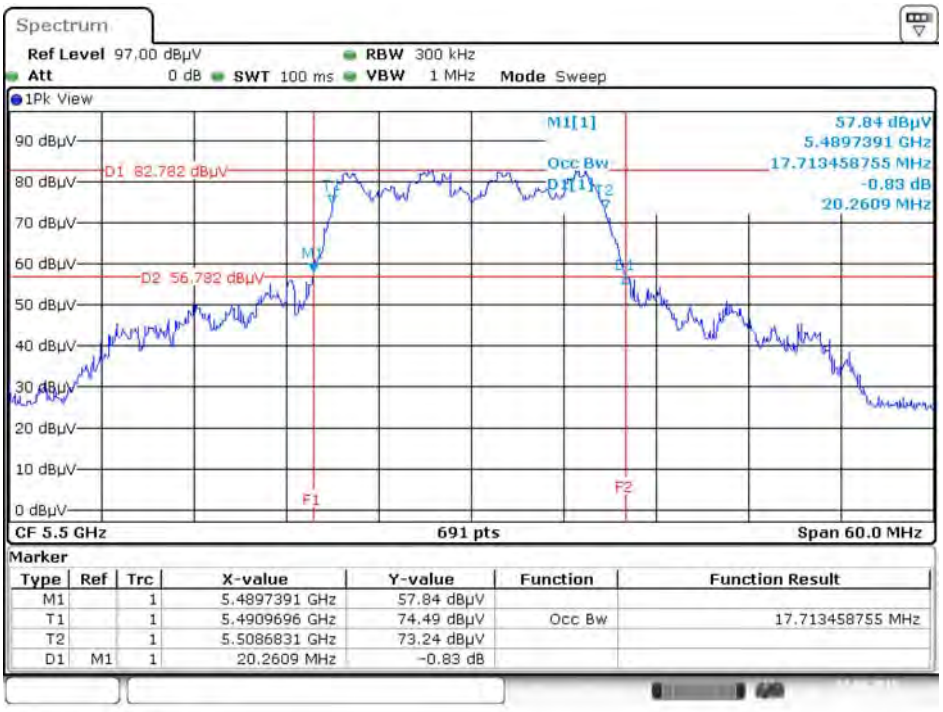
Date: 23.MAR.2015 22:10:56

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



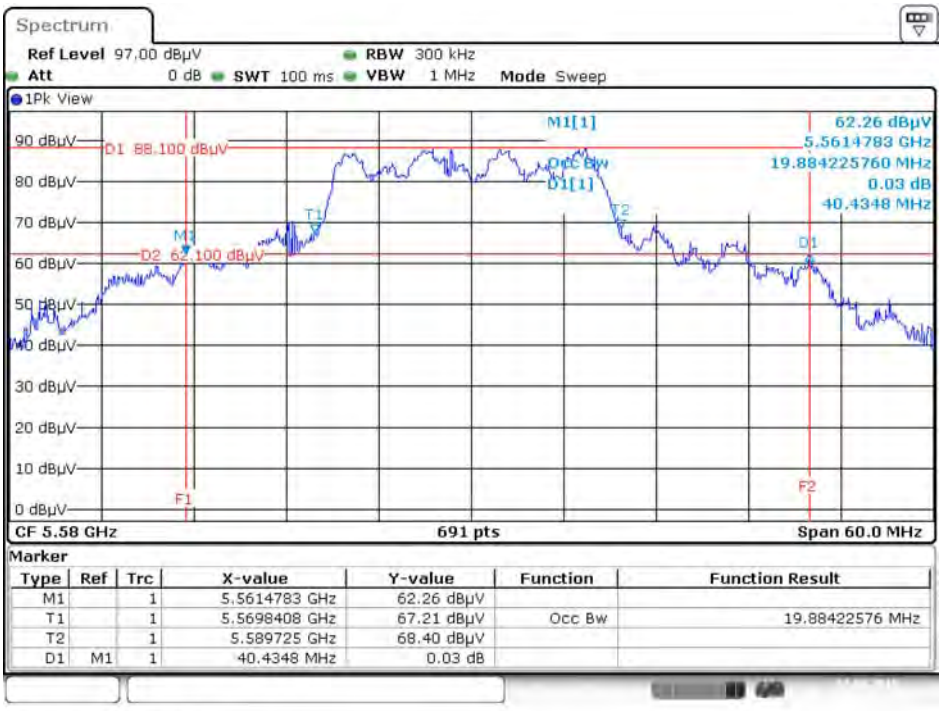
Date: 23.MAR.2015 22:11:19

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



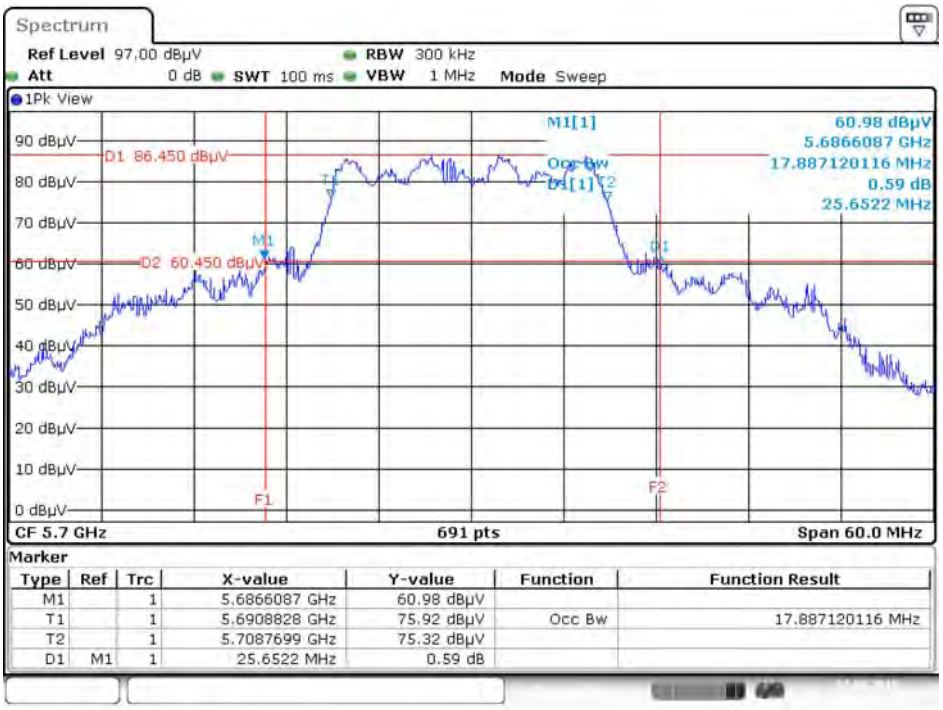
Date: 23.MAR.2015 22:11:59

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



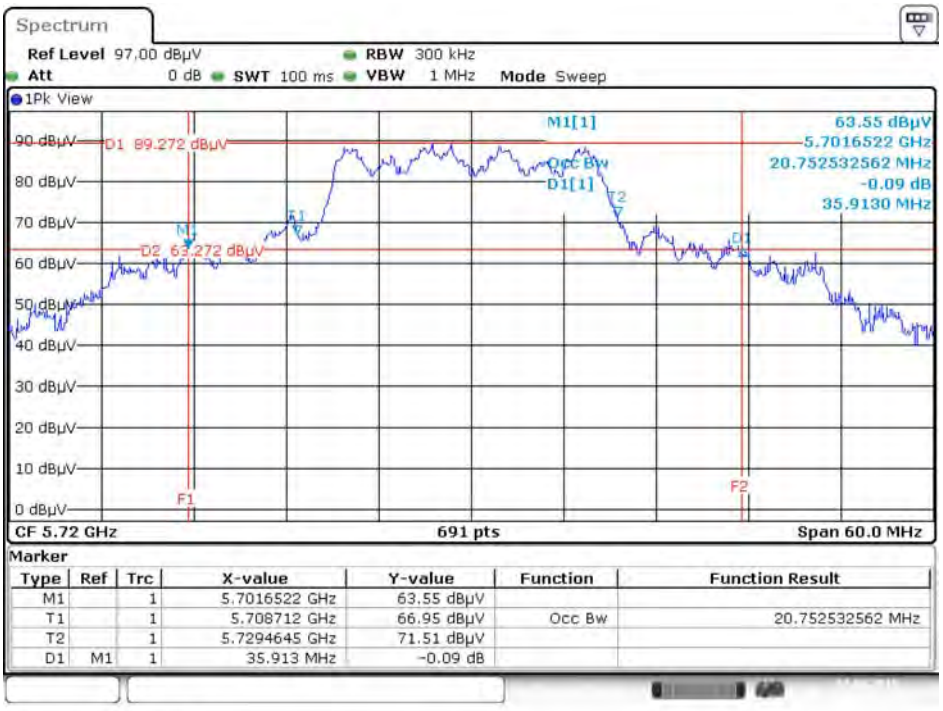
Date: 23.MAR.2015 22:12:43

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



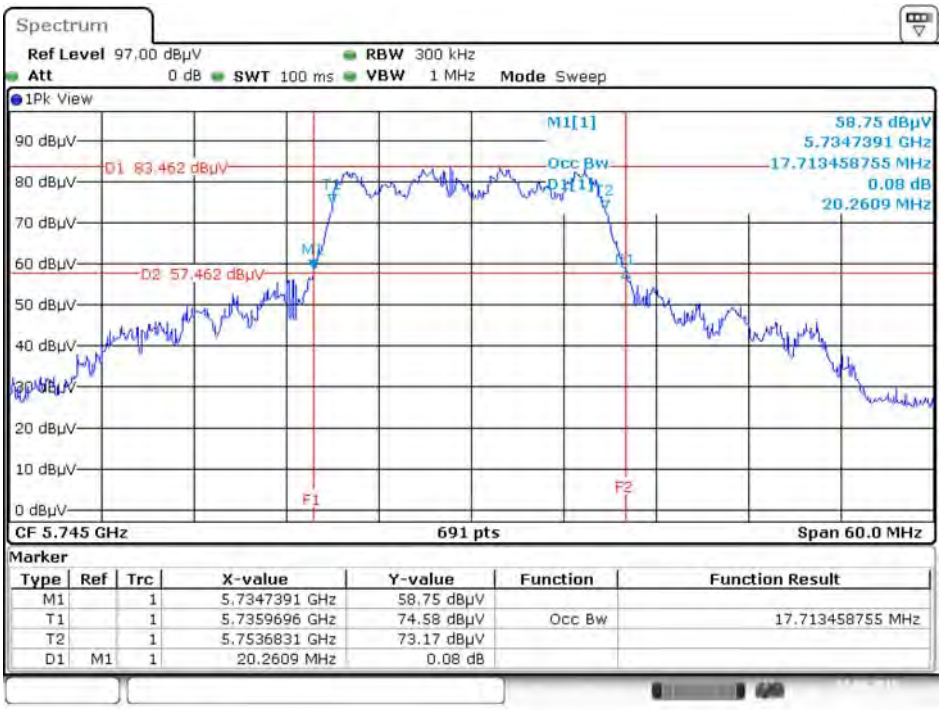
Date: 23.MAR.2015 22:13:24

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



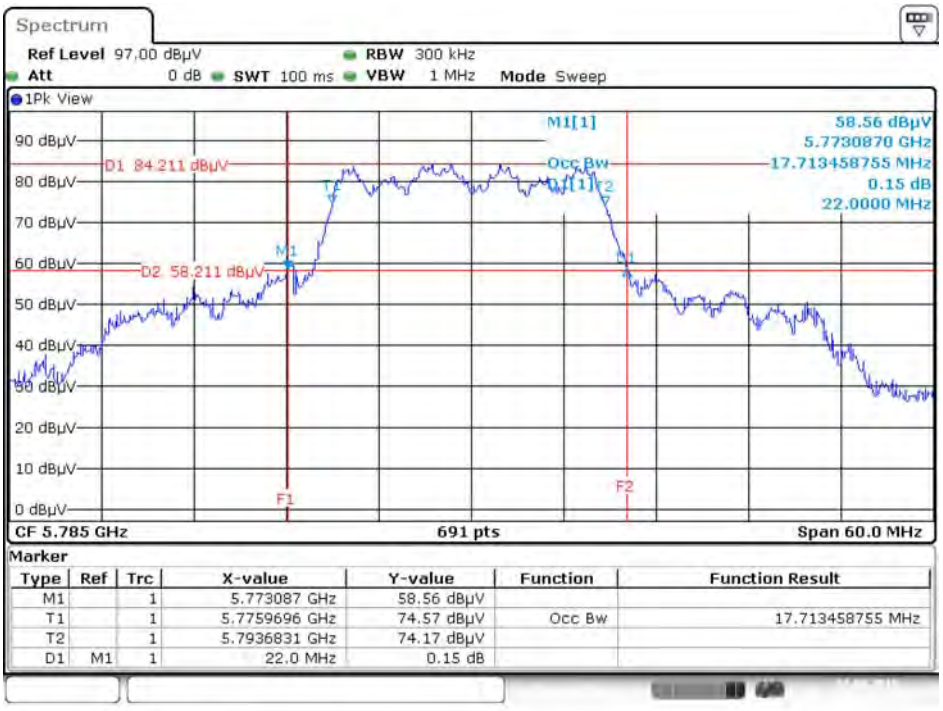
Date: 23.MAR.2015 22:38:40

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



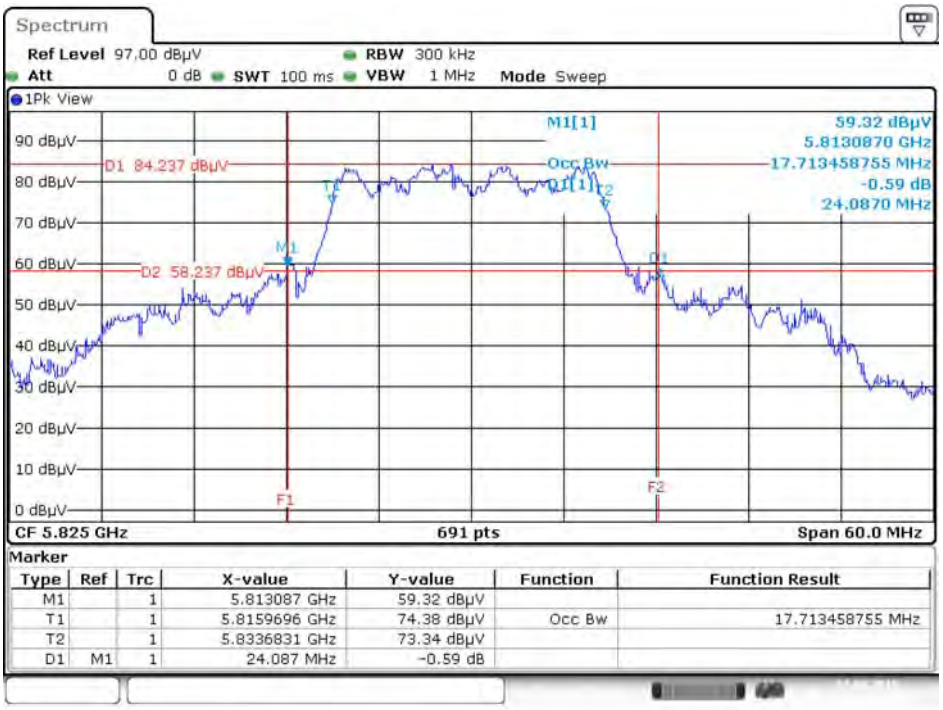
Date: 23.MAR.2015 22:14:04

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



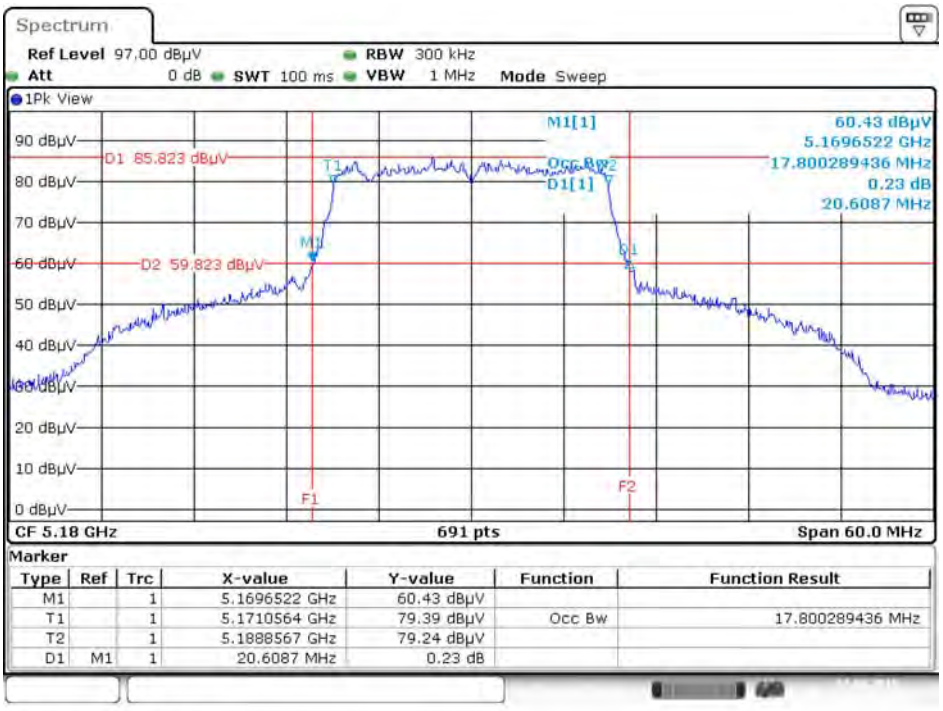
Date: 23.MAR.2015 22:14:50

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



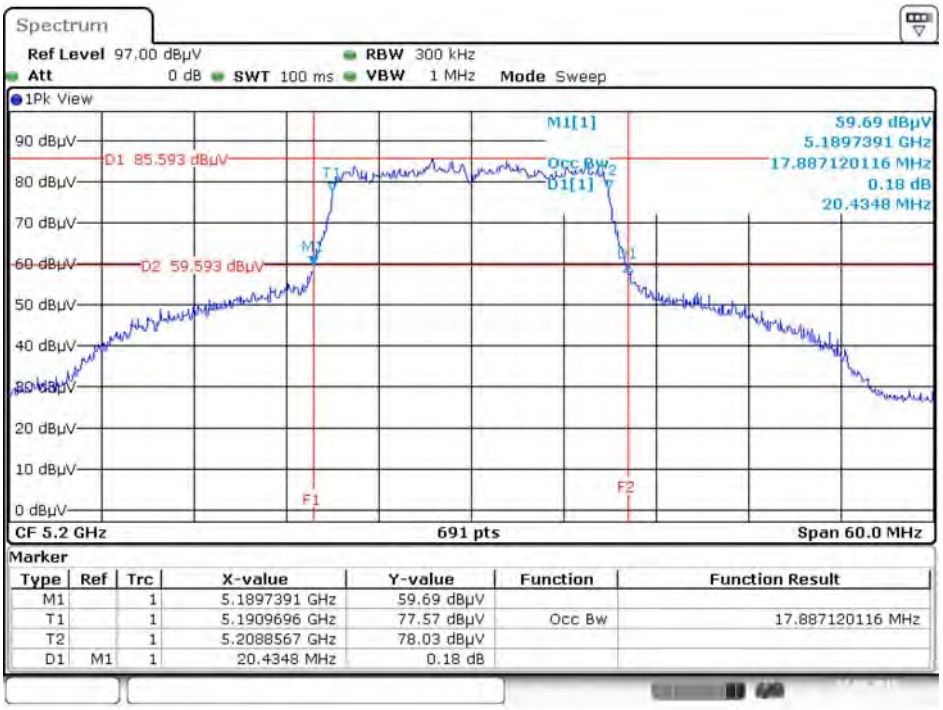
Date: 23.MAR.2015 22:15:21

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5180 MHz



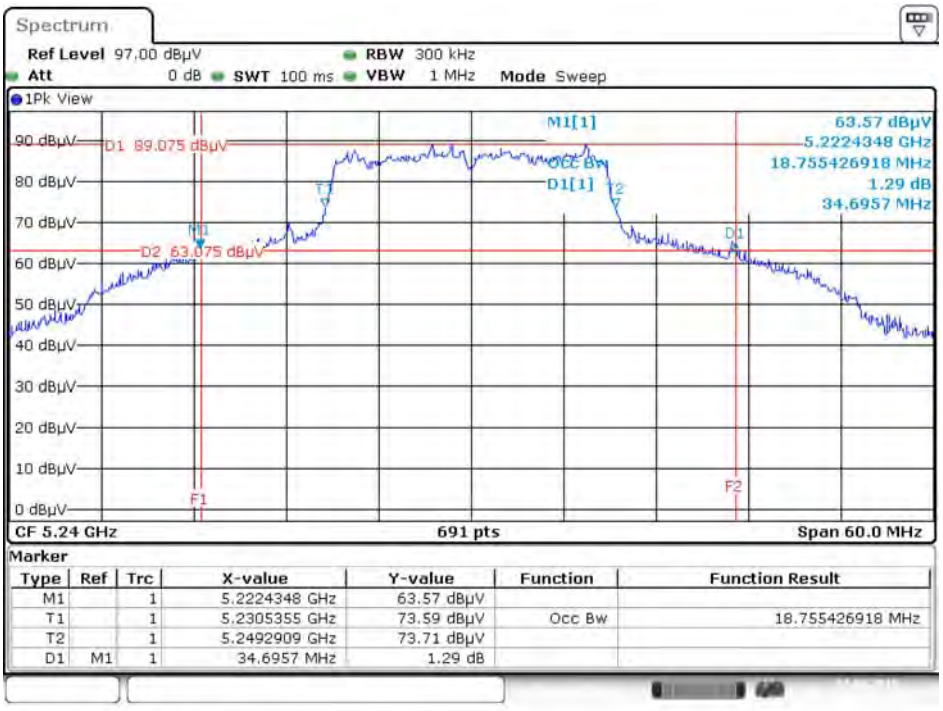
Date: 23.MAR.2015 22:53:53

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5200 MHz



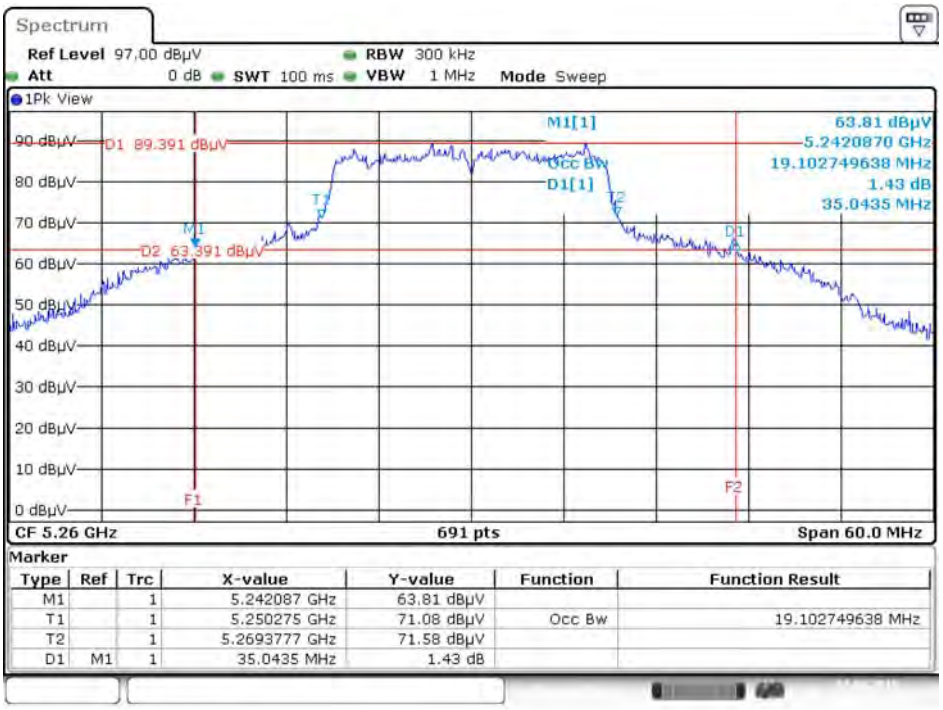
Date: 23.MAR.2015 22:54:30

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5240 MHz



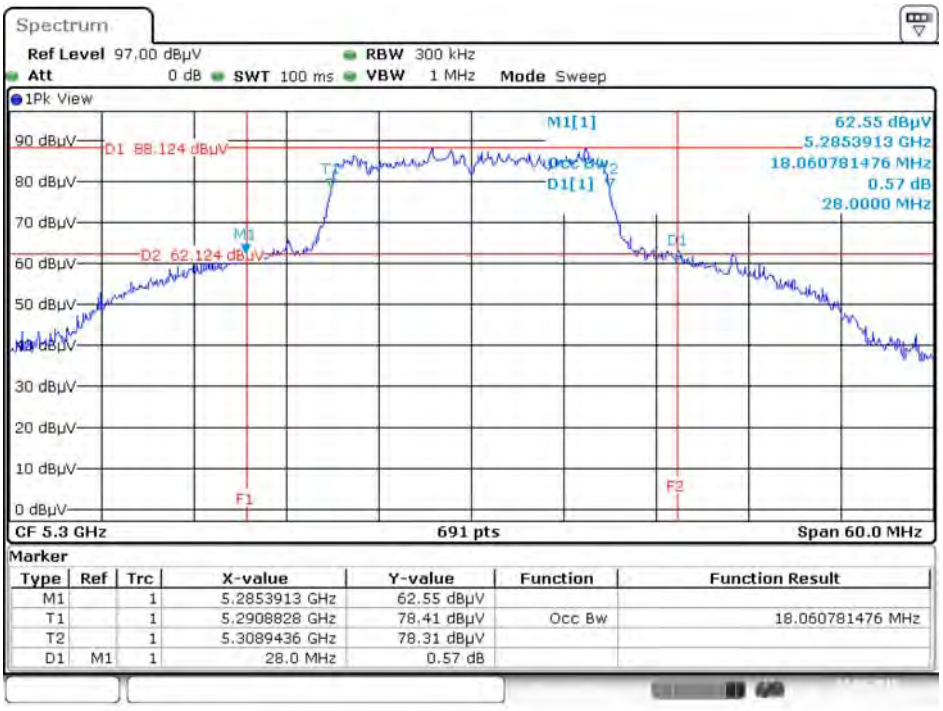
Date: 23.MAR.2015 22:55:01

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5260 MHz



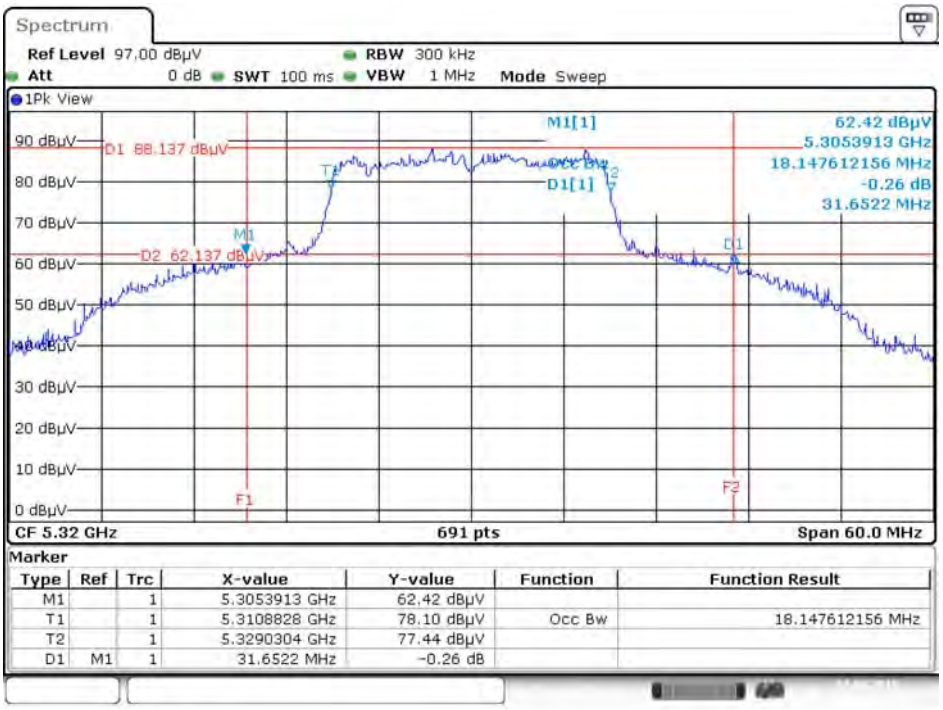
Date: 23.MAR.2015 22:55:32

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5300 MHz



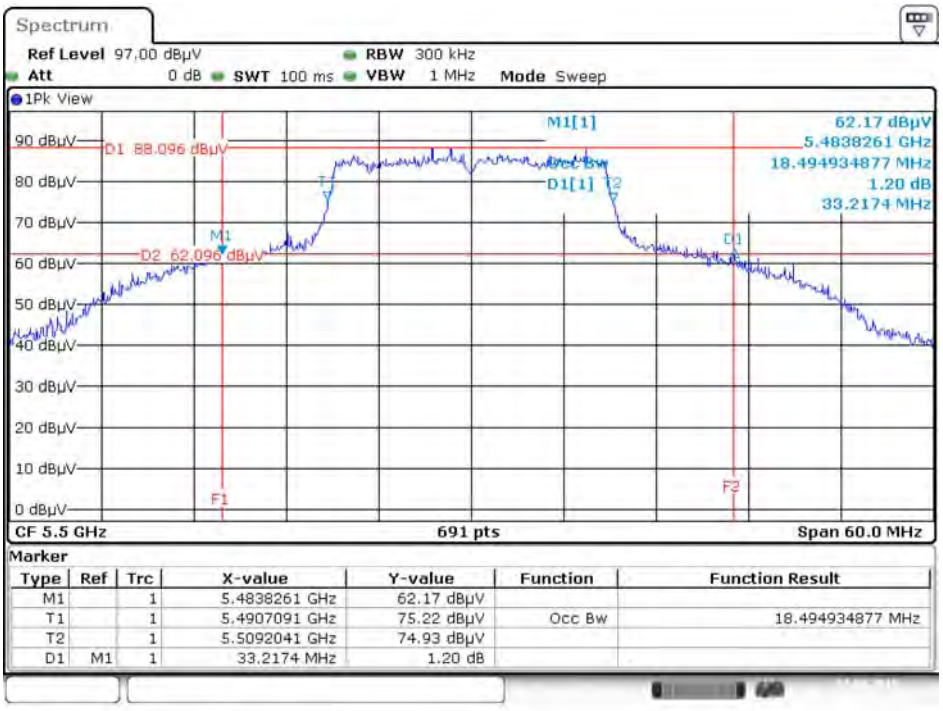
Date: 23.MAR.2015 22:56:08

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5320 MHz



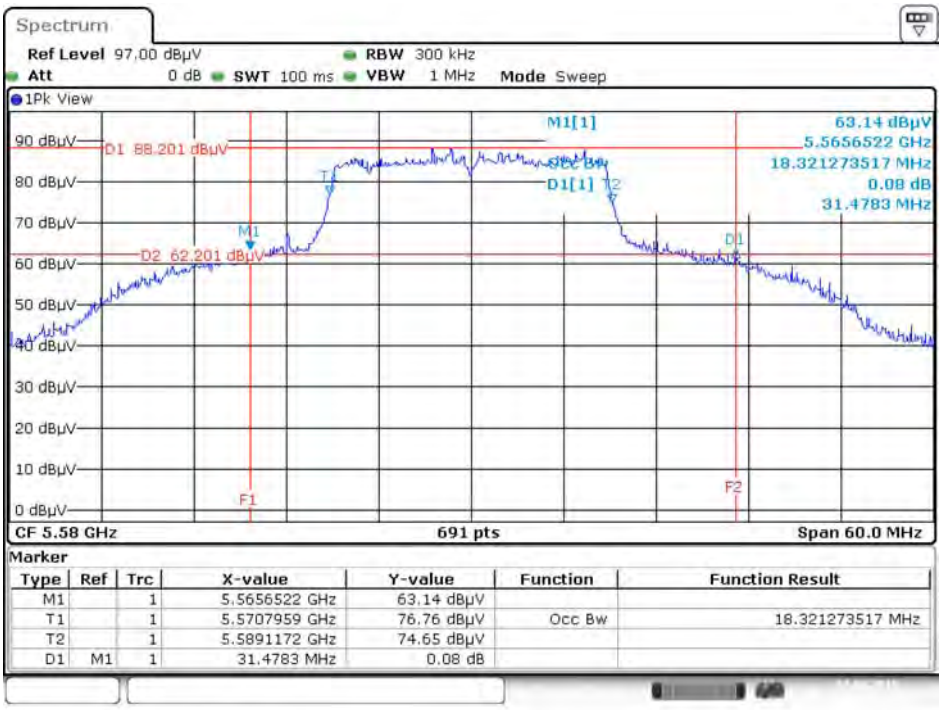
Date: 23.MAR.2015 22:56:48

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5500 MHz



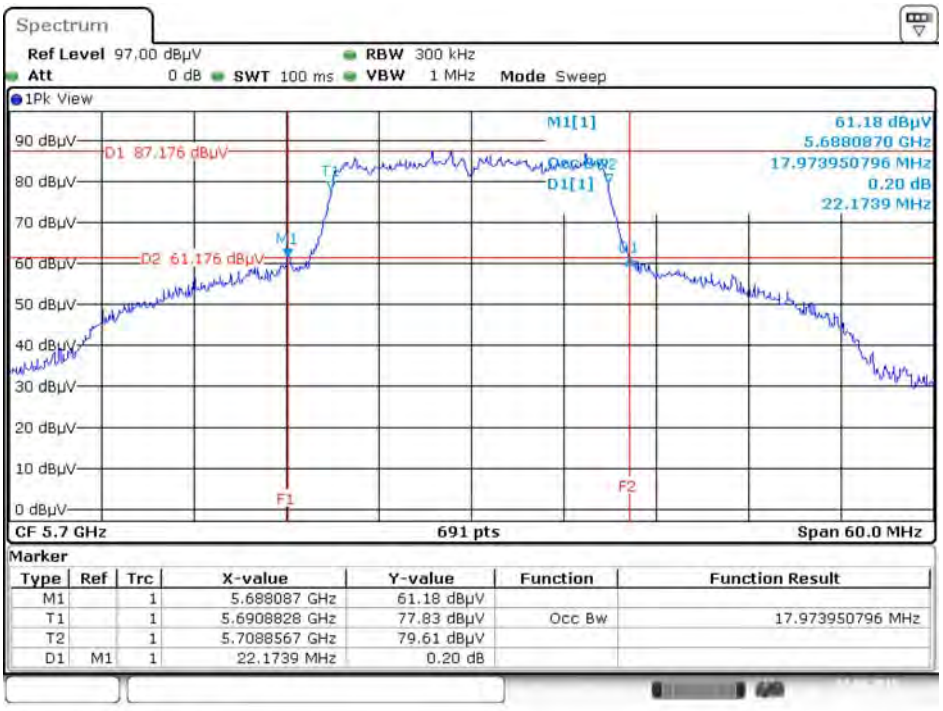
Date: 23.MAR.2015 22:57:24

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5580 MHz



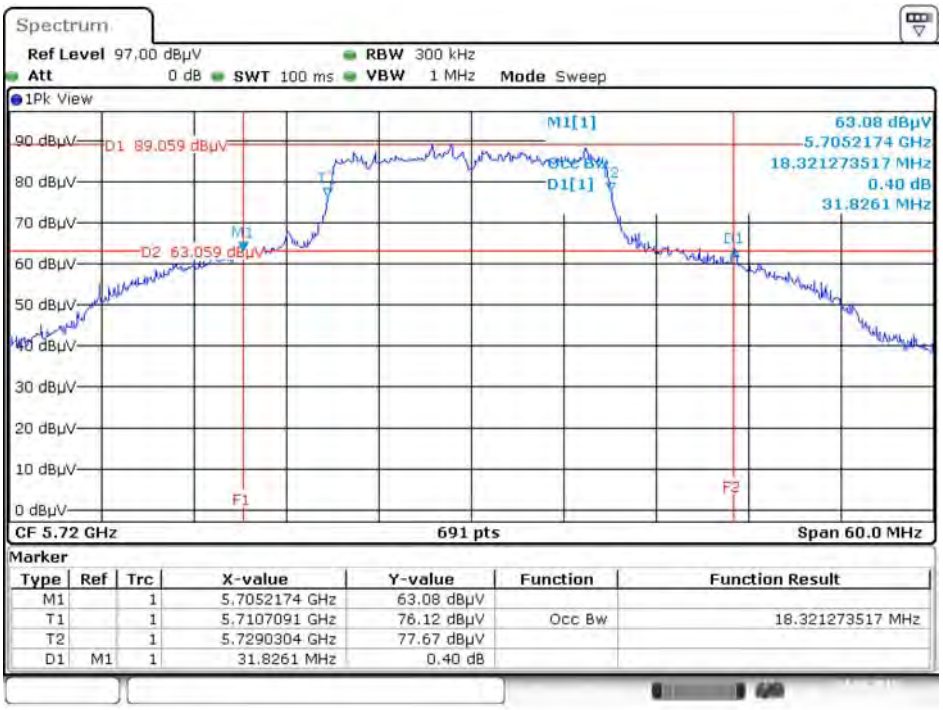
Date: 23.MAR.2015 22:58:23

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5700 MHz



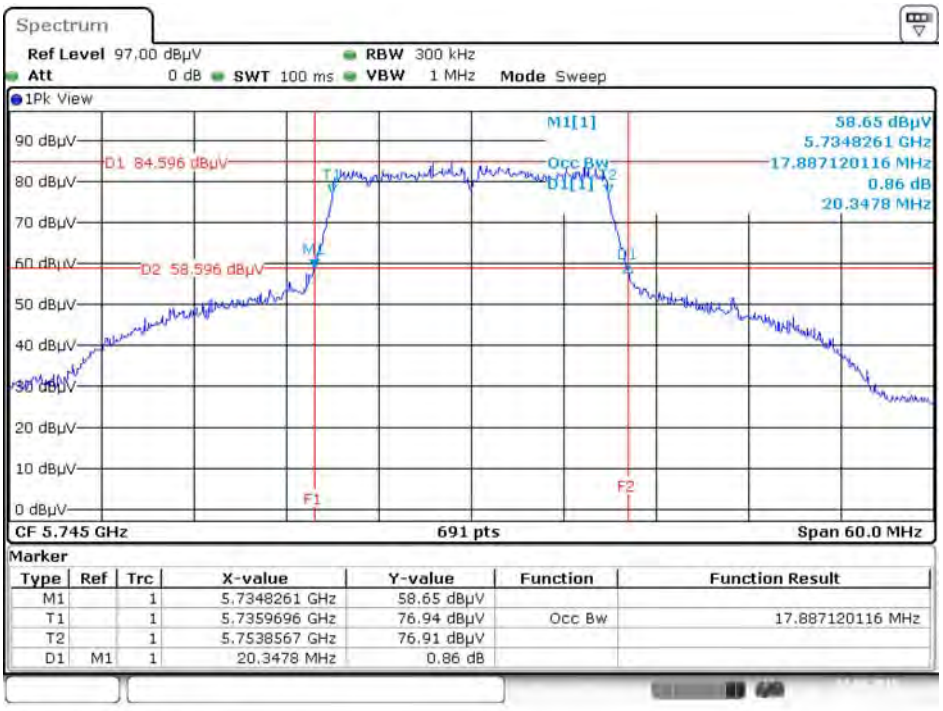
Date: 23.MAR.2015 22:59:15

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5720 MHz



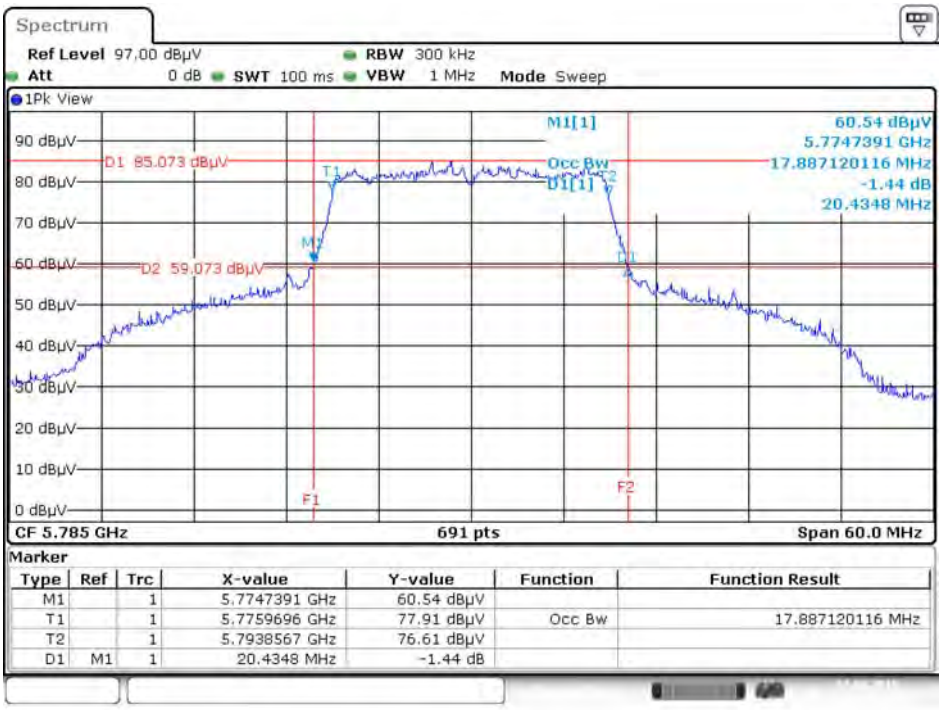
Date: 24.MAR.2015 02:24:15

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5745 MHz



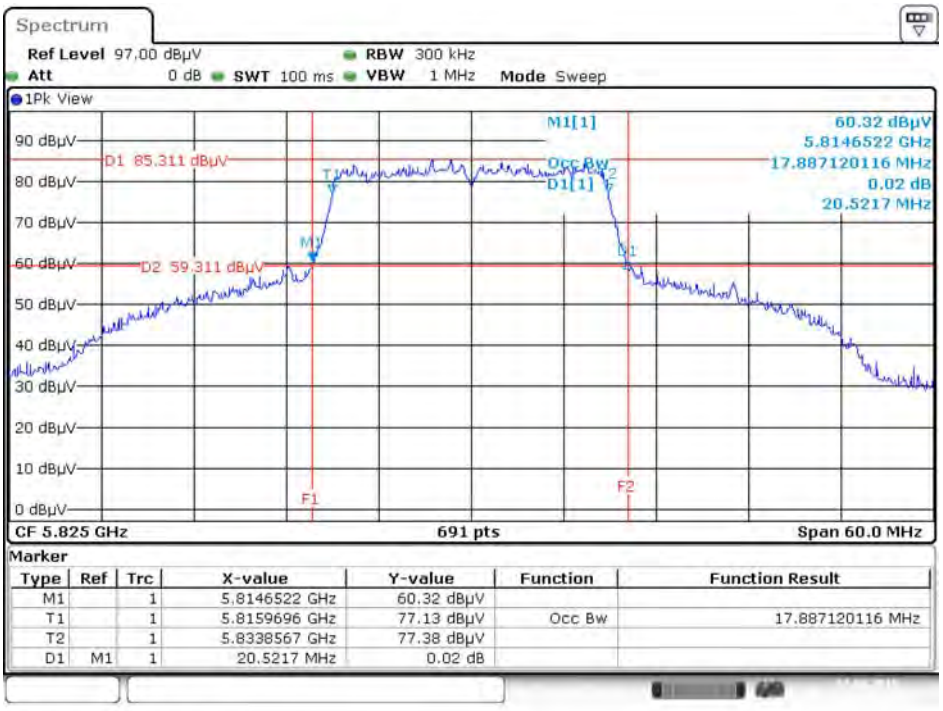
Date: 23.MAR.2015 22:59:46

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5785 MHz



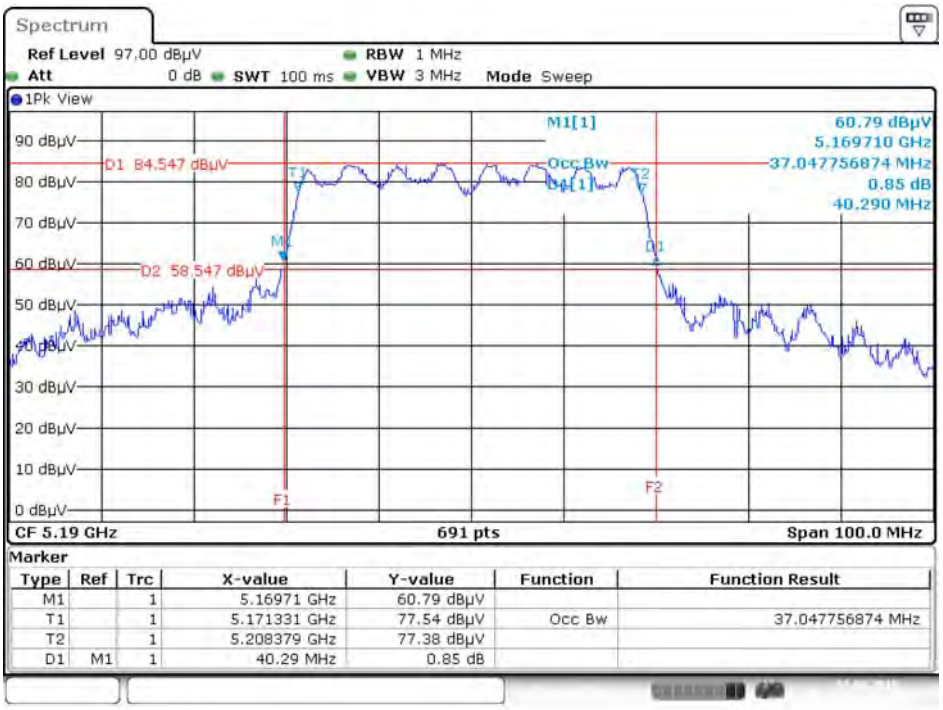
Date: 23.MAR.2015 23:00:21

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5825 MHz



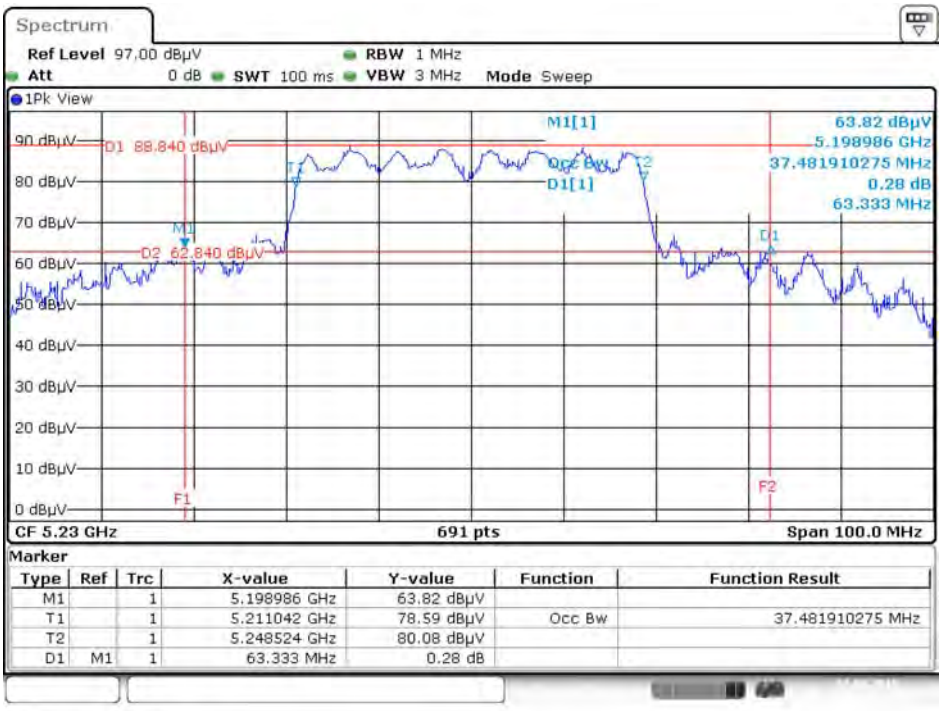
Date: 23.MAR.2015 23:00:52

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



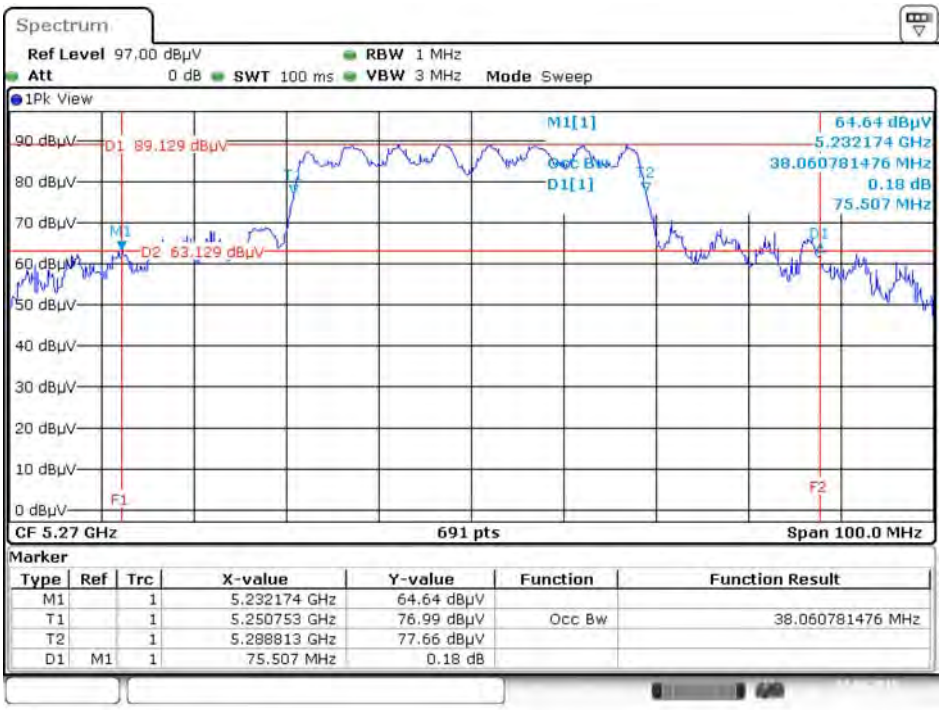
Date: 23.MAR.2015 22:16:47

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



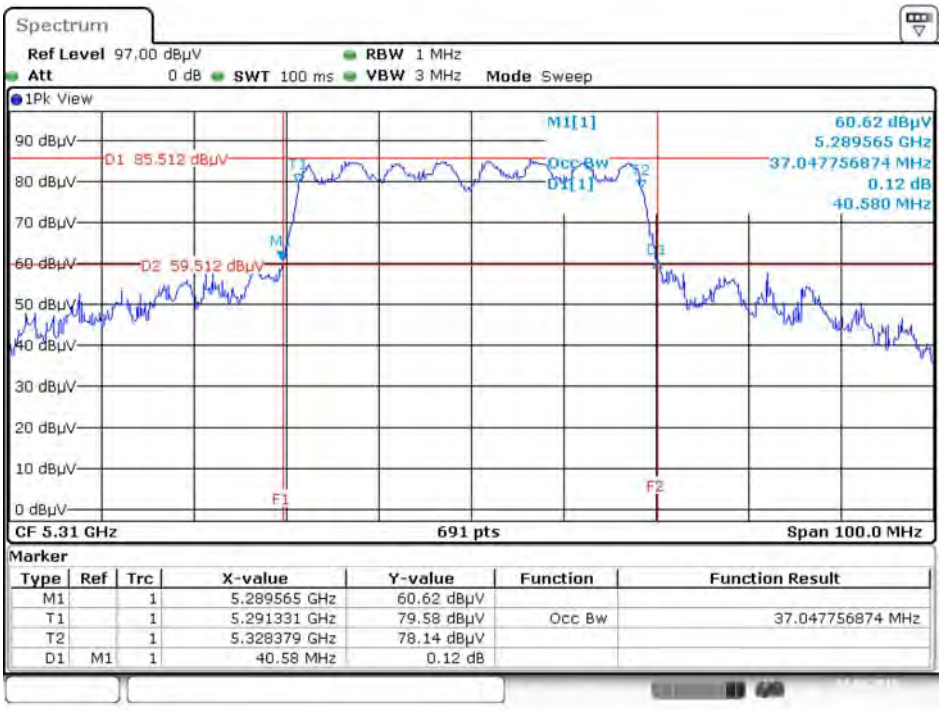
Date: 23.MAR.2015 22:17:24

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



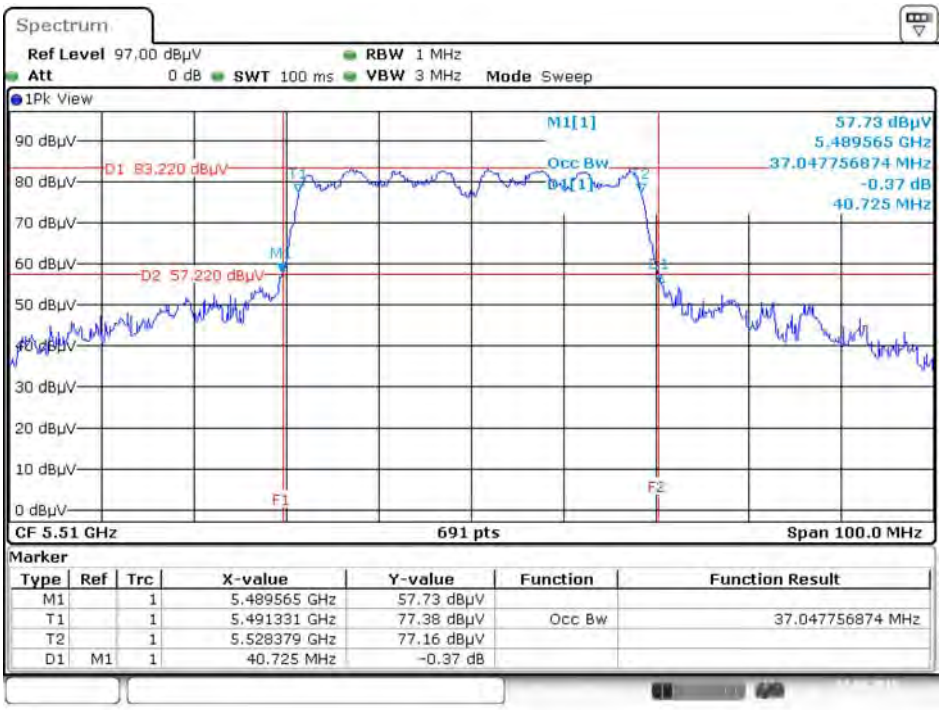
Date: 23.MAR.2015 22:17:59

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



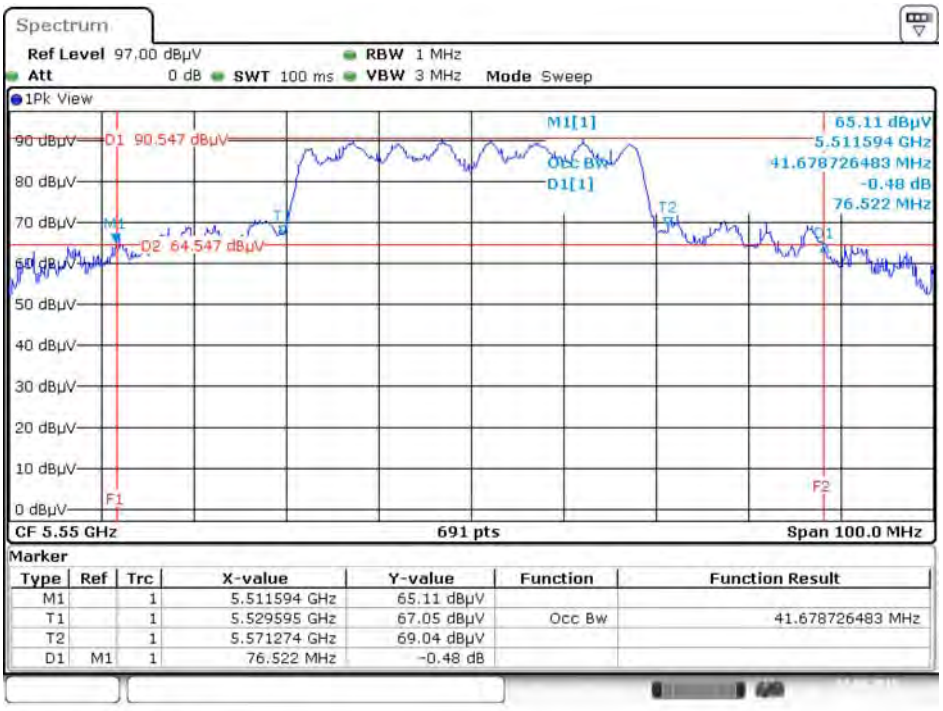
Date: 23.MAR.2015 22:18:36

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



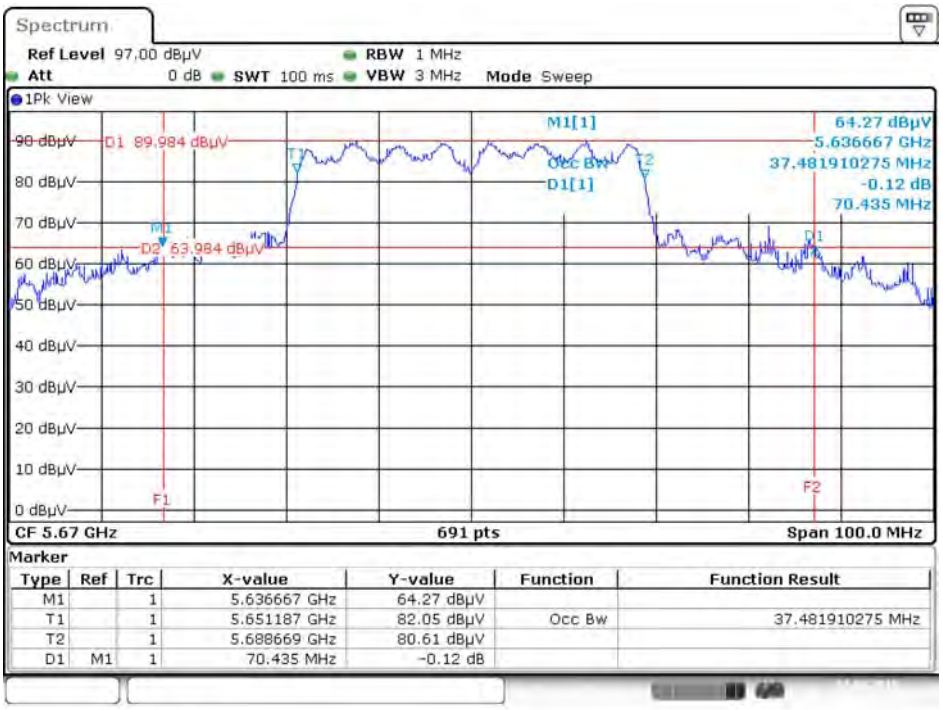
Date: 23.MAR.2015 22:19:16

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



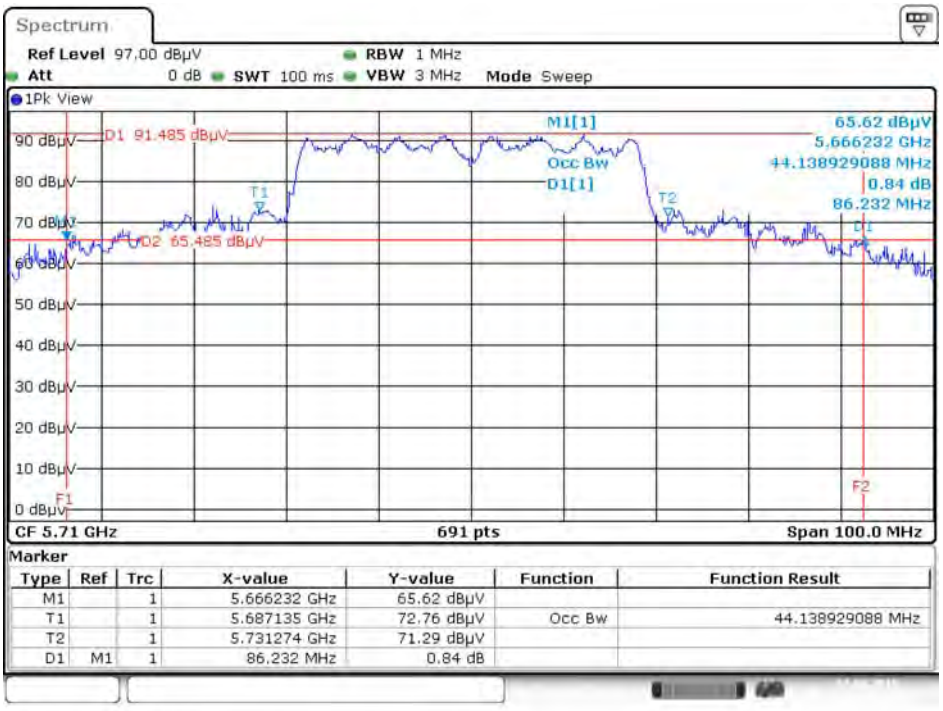
Date: 23.MAR.2015 22:19:50

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



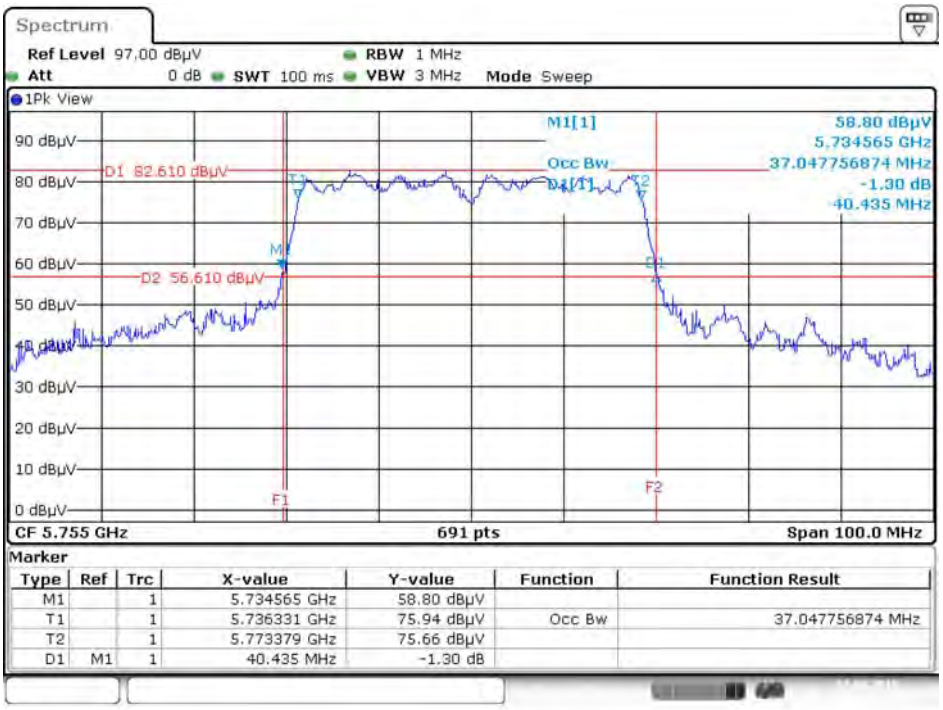
Date: 23.MAR.2015 22:20:45

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



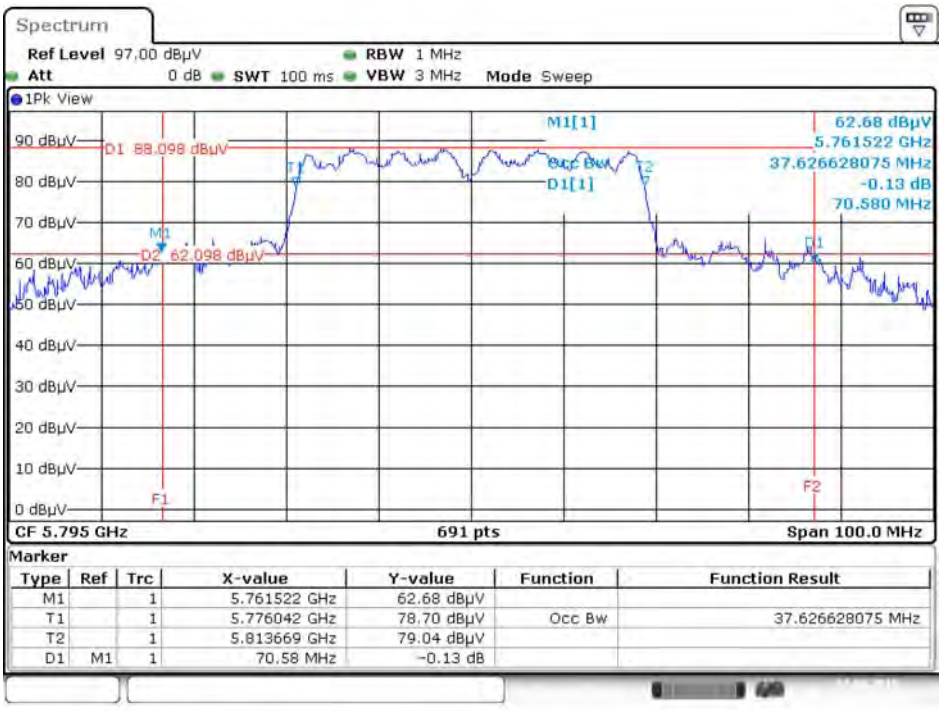
Date: 23.MAR.2015 22:37:20

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



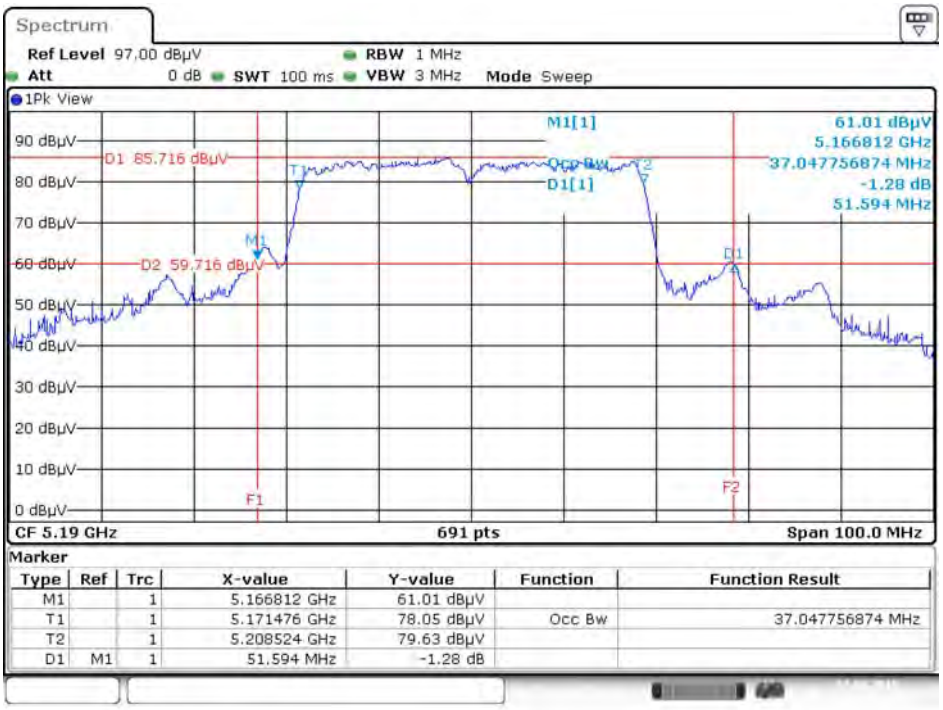
Date: 23.MAR.2015 22:21:13

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



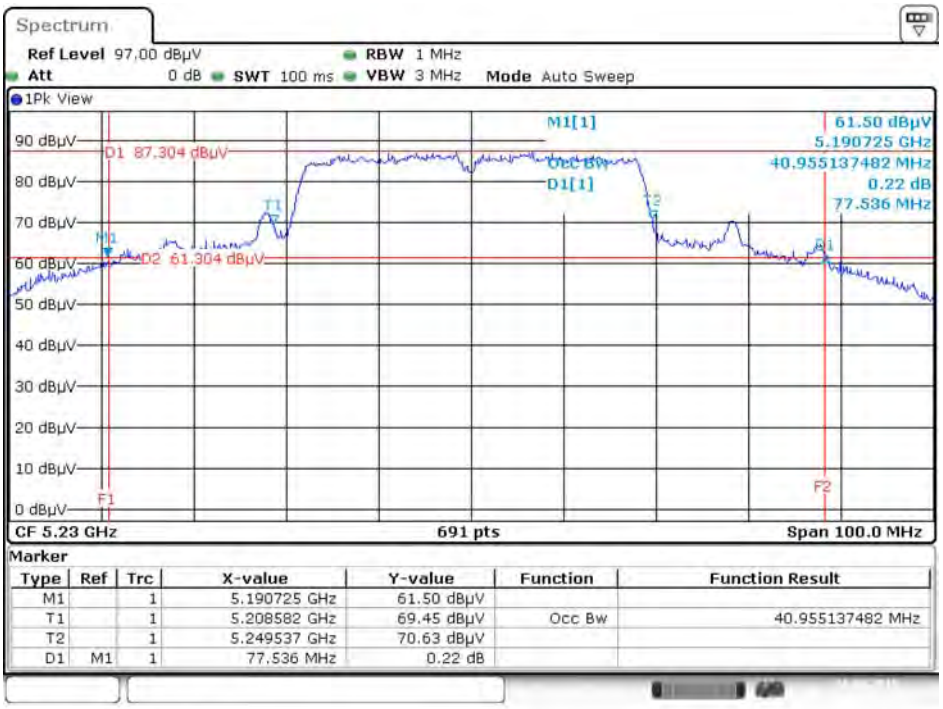
Date: 23.MAR.2015 22:21:51

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 1 + Chain 2 + Chain 3 / 5190 MHz



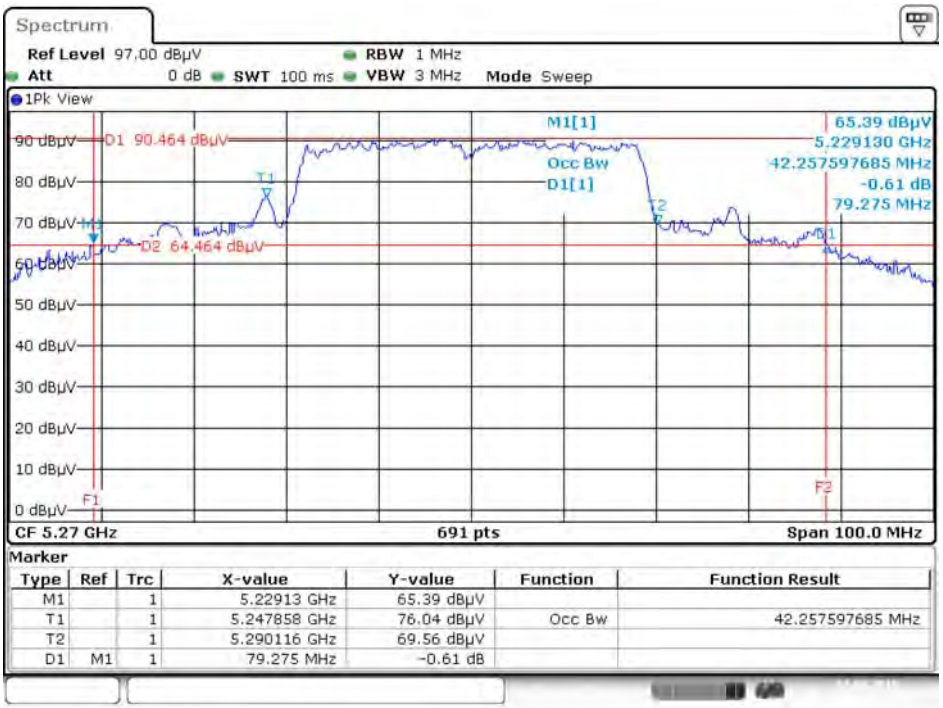
Date: 23.MAR.2015 23:02:41

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 1 + Chain 2 + Chain 3 / 5230 MHz



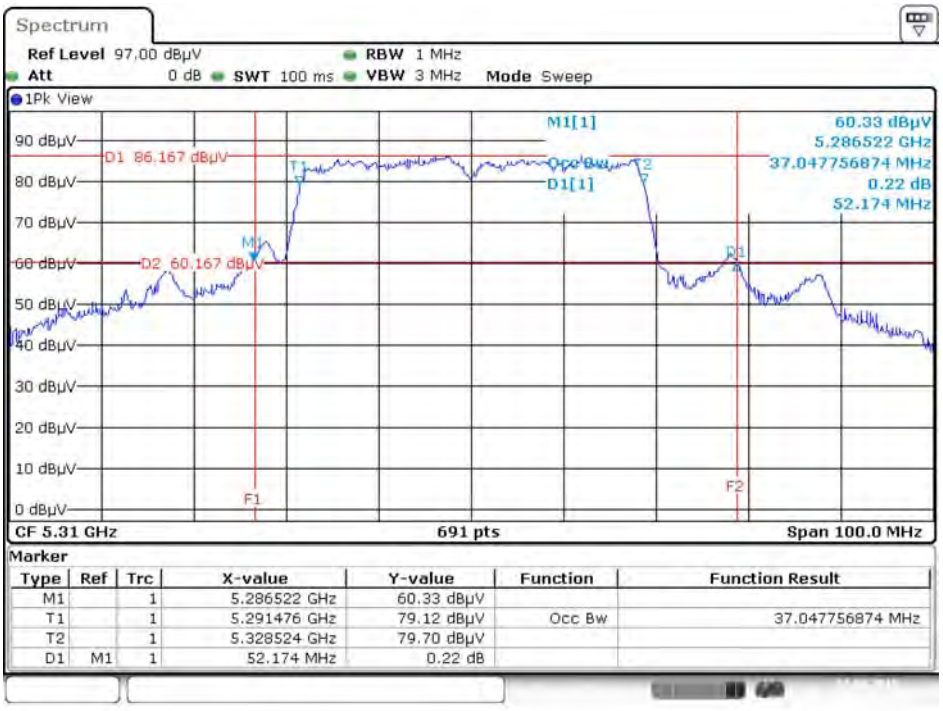
Date: 26.MAR.2015 02:29:05

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 1 + Chain 2 + Chain 3 / 5270 MHz



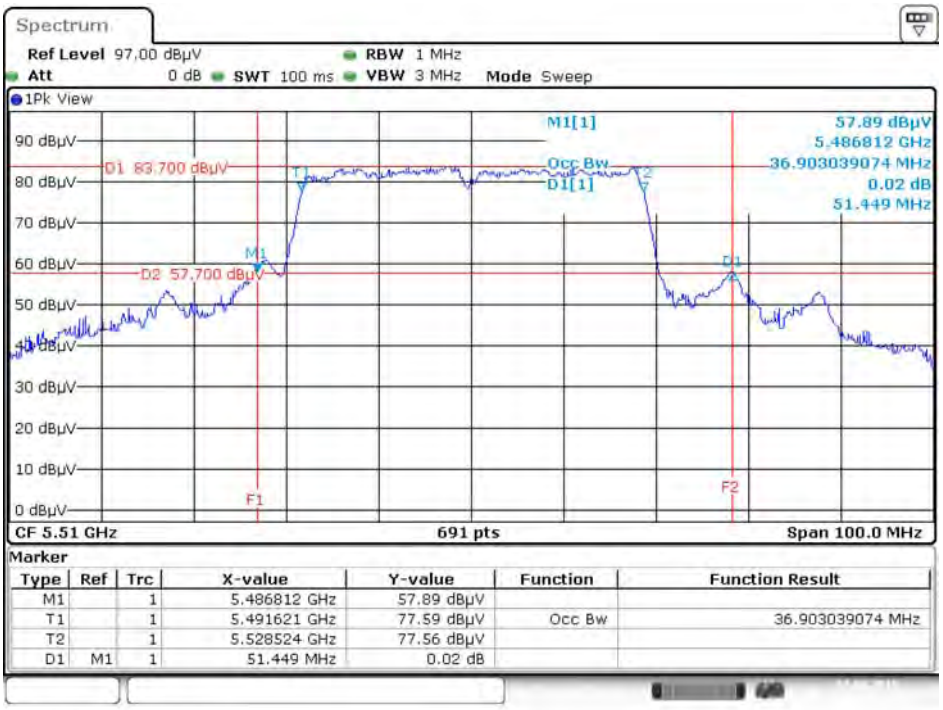
Date: 23.MAR.2015 23:03:56

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 1 + Chain 2 + Chain 3 / 5310 MHz



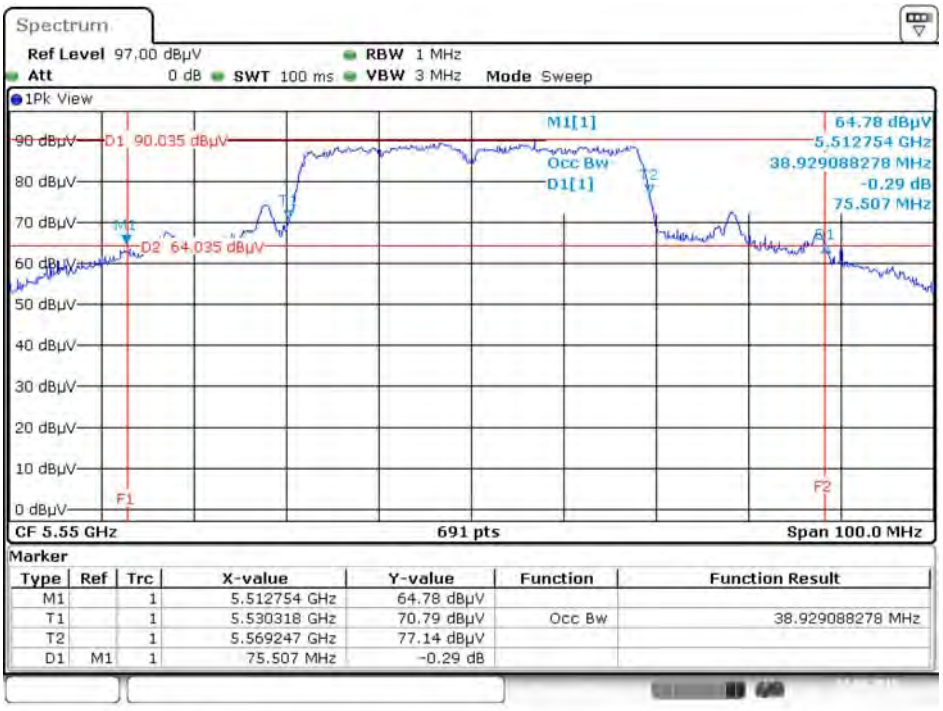
Date: 23.MAR.2015 23:04:34

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3VHT40 / Chain 1 + Chain 2 + Chain 3 / 5510 MHz



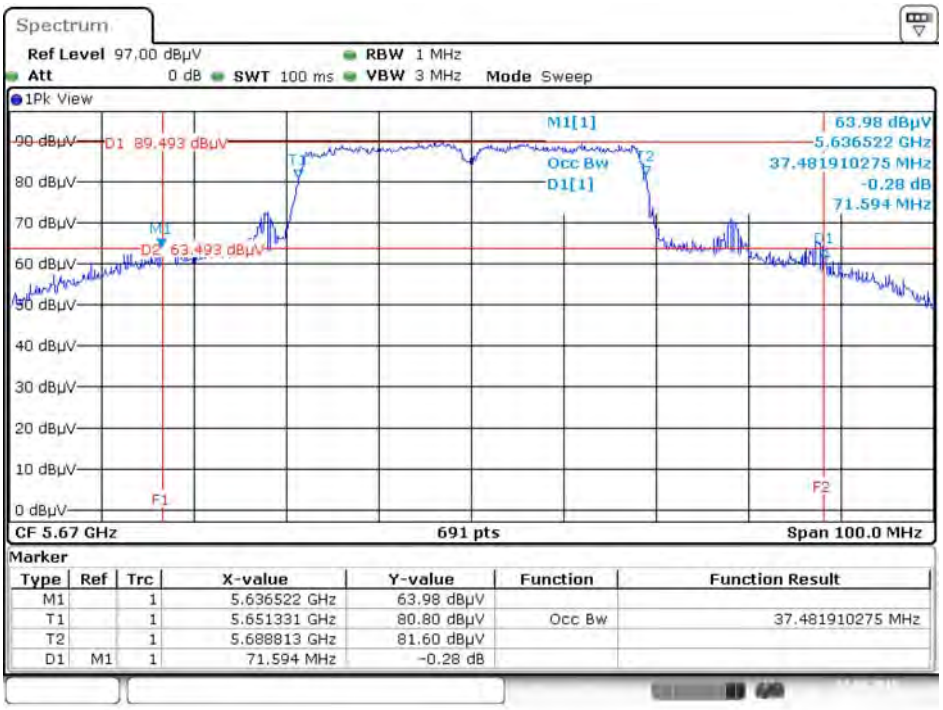
Date: 23.MAR.2015 23:05:13

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 1 + Chain 2 + Chain 3 / 5550 MHz



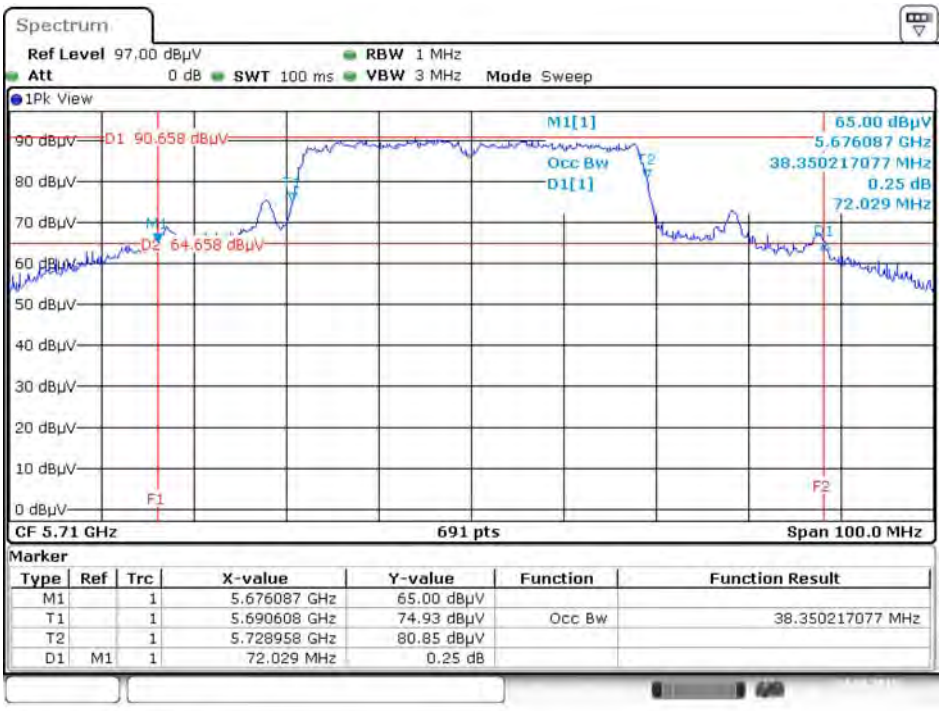
Date: 23.MAR.2015 23:05:50

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 1 + Chain 2 + Chain 3 / 5670 MHz



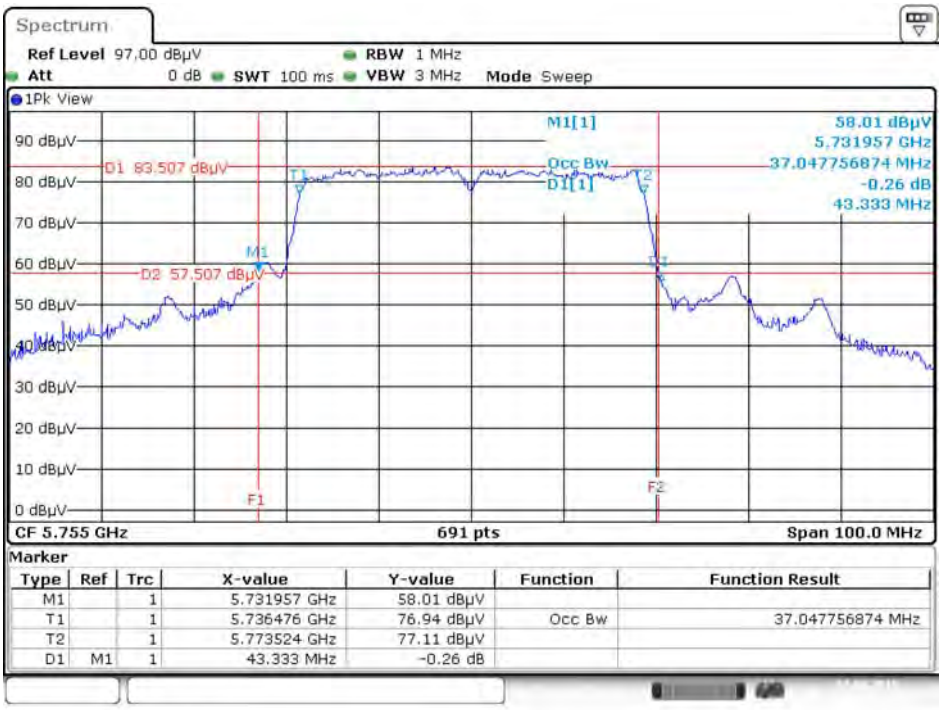
Date: 23.MAR.2015 23:06:24

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 1 + Chain 2 + Chain 3 / 5710 MHz



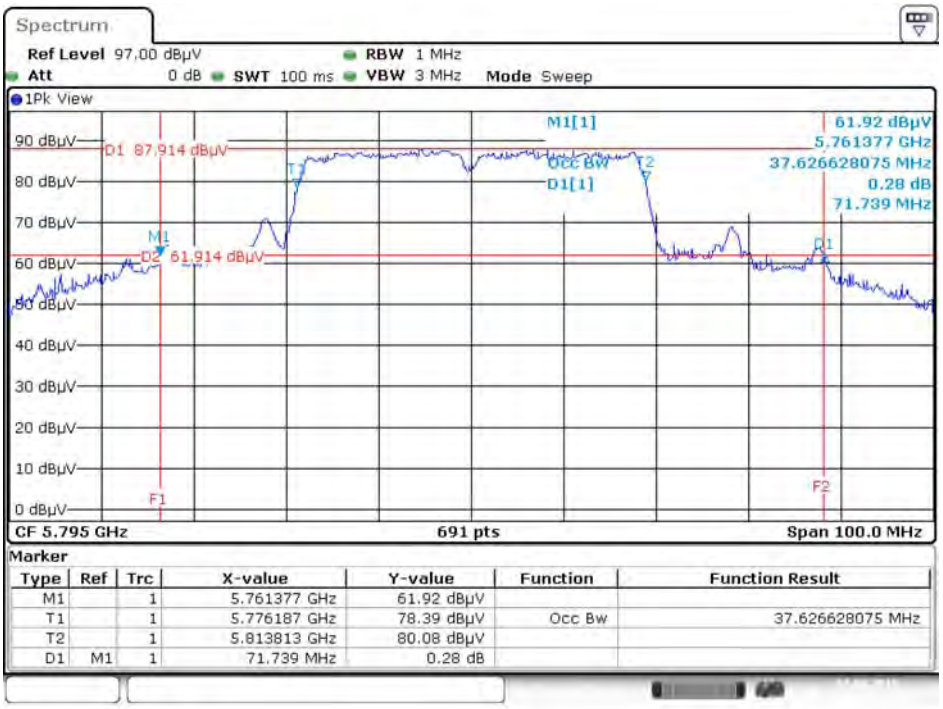
Date: 24.MAR.2015 02:24:57

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 1 + Chain 2 + Chain 3 / 5755 MHz



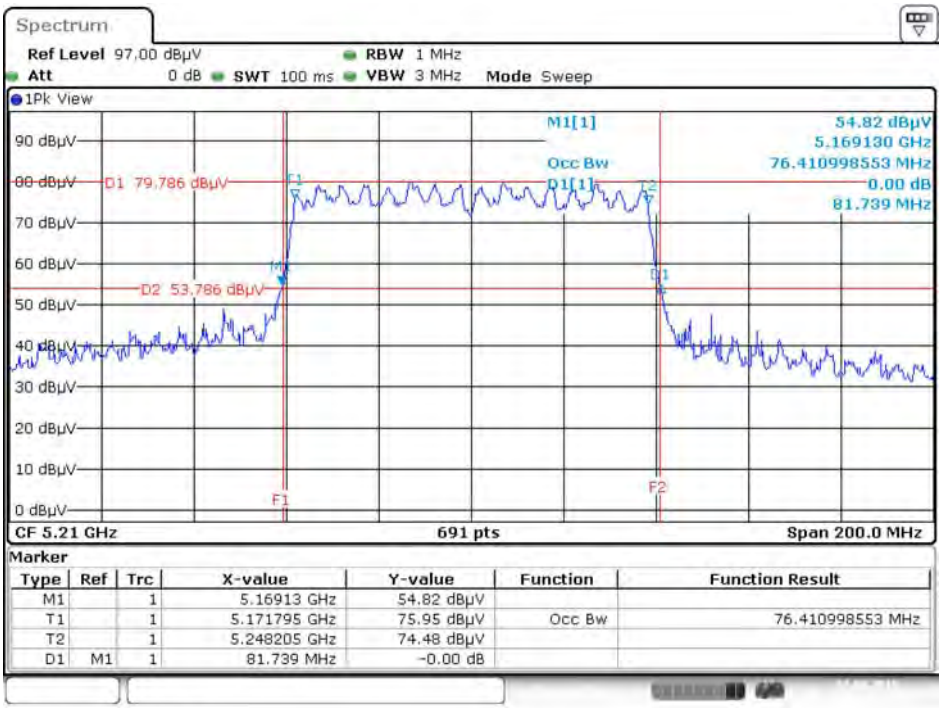
Date: 23.MAR.2015 23:07:00

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT40 / Chain 1 + Chain 2 + Chain 3 / 5795 MHz



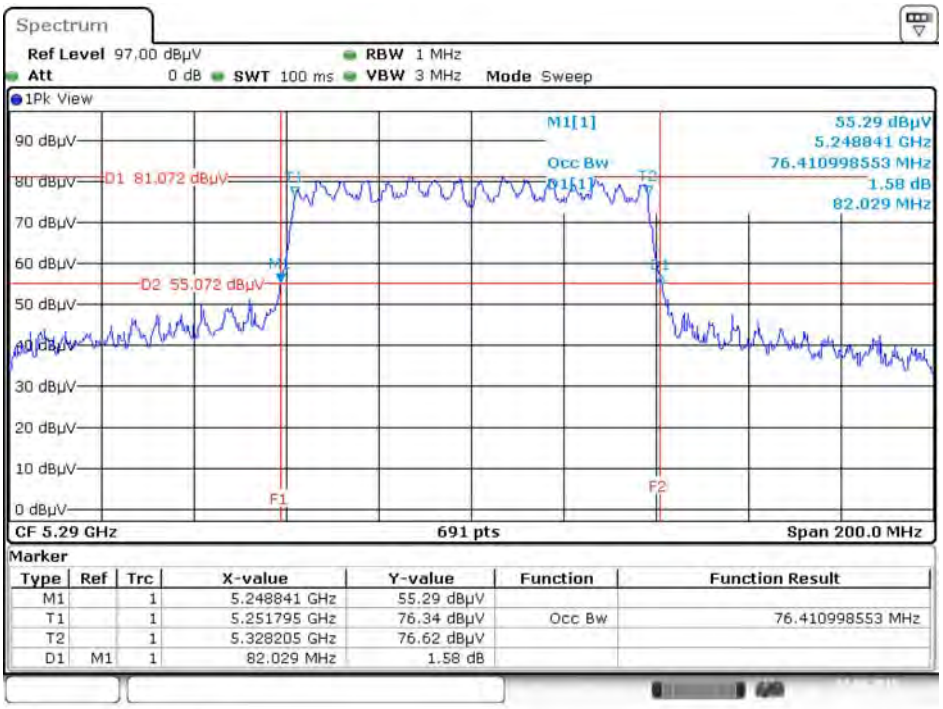
Date: 23.MAR.2015 23:07:35

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



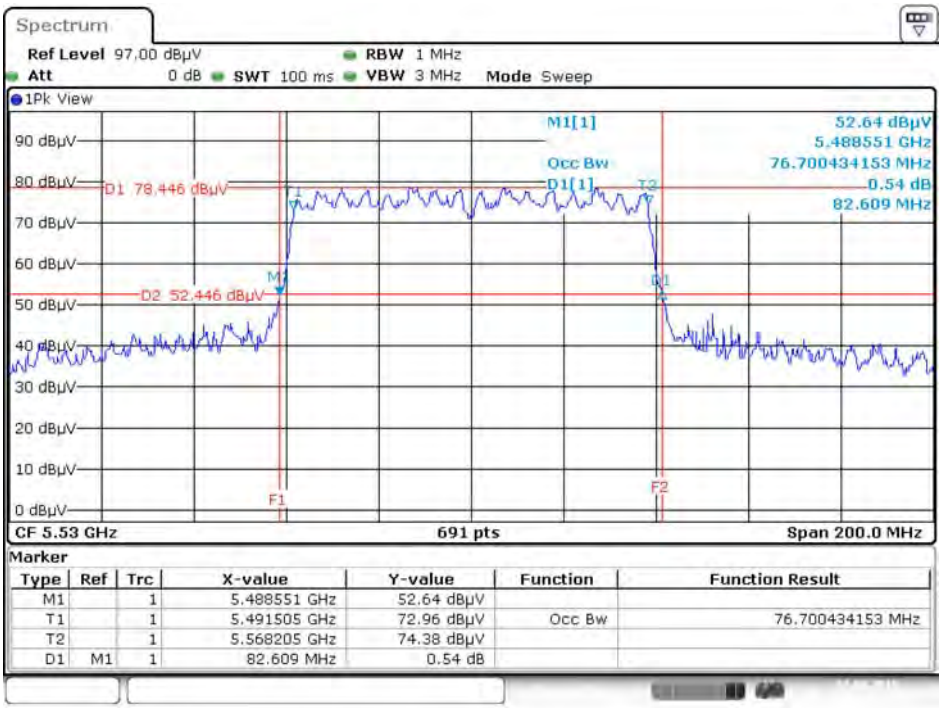
Date: 23.MAR.2015 22:23:40

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



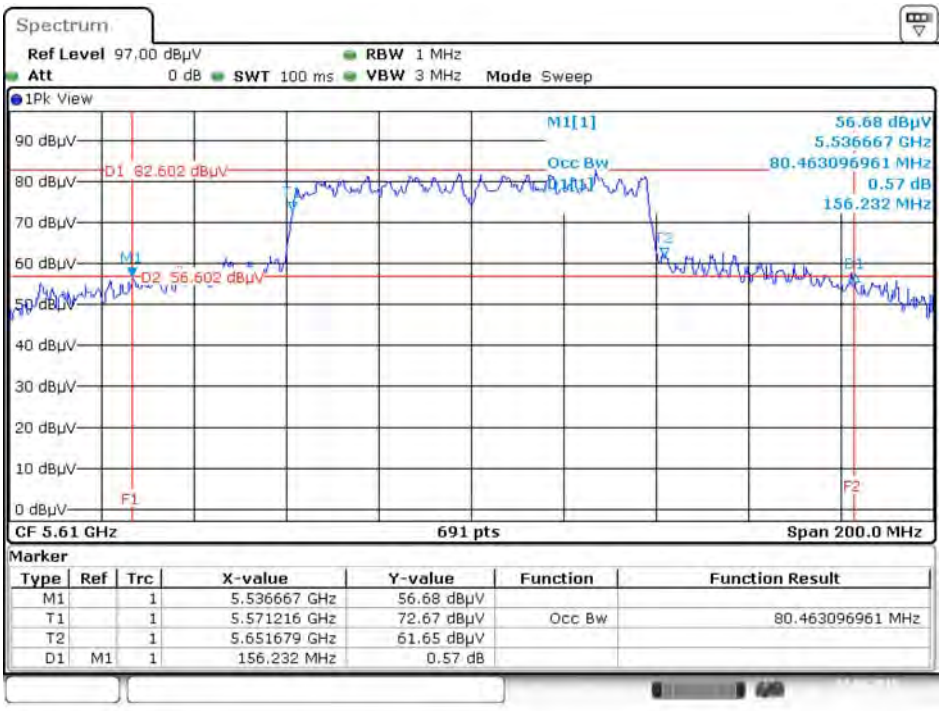
Date: 23.MAR.2015 22:24:12

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



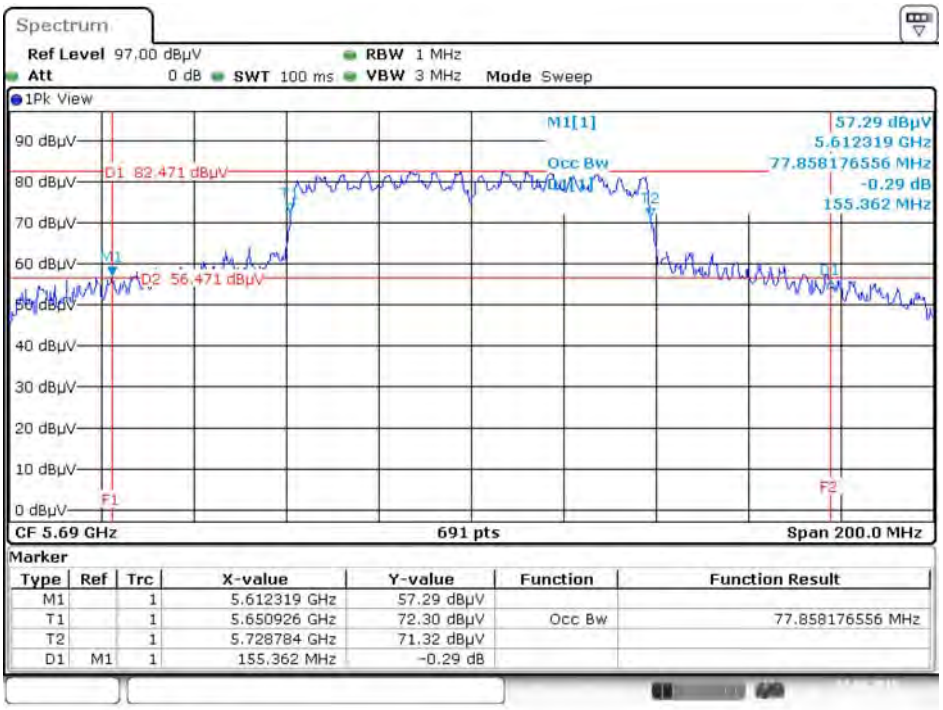
Date: 23.MAR.2015 22:24:46

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



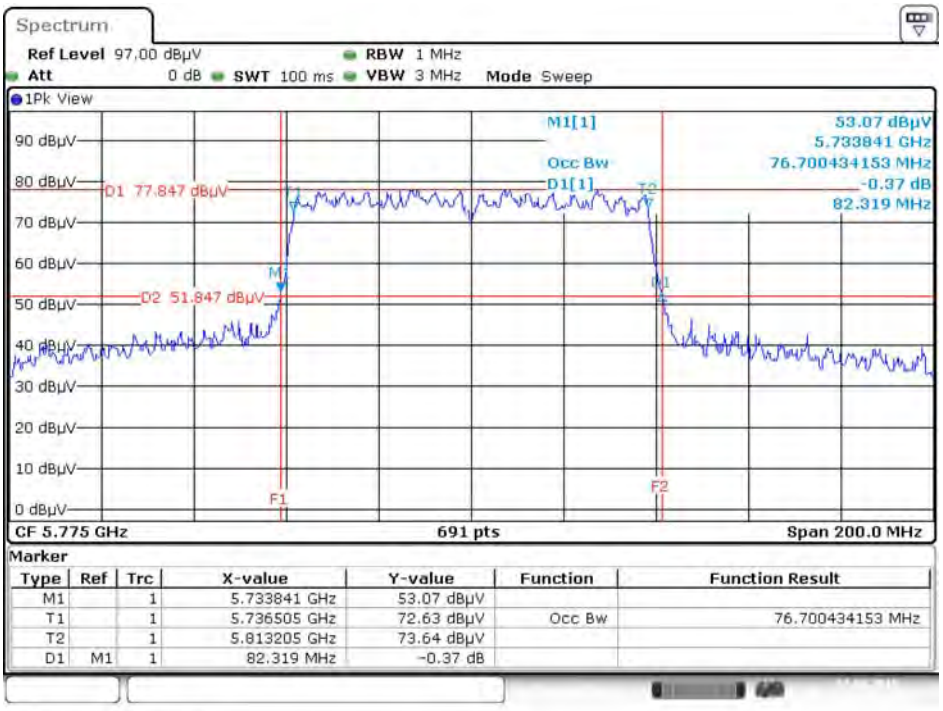
Date: 23.MAR.2015 22:25:56

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



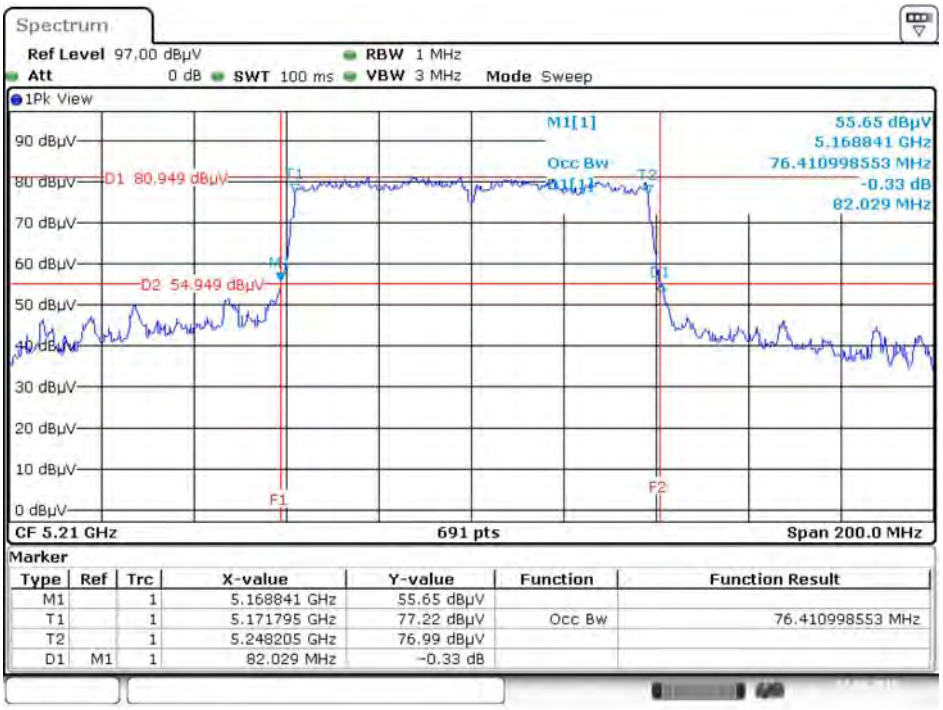
Date: 23.MAR.2015 22:35:25

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



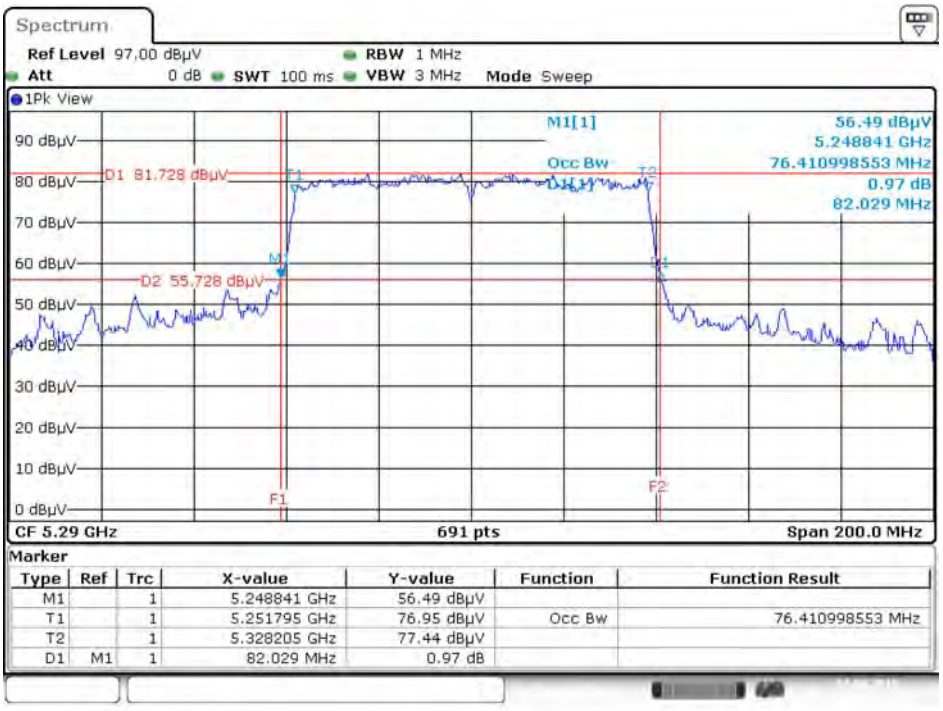
Date: 23.MAR.2015 22:27:12

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT80 / Chain 1 + Chain 2 + Chain 3 / 5210 MHz



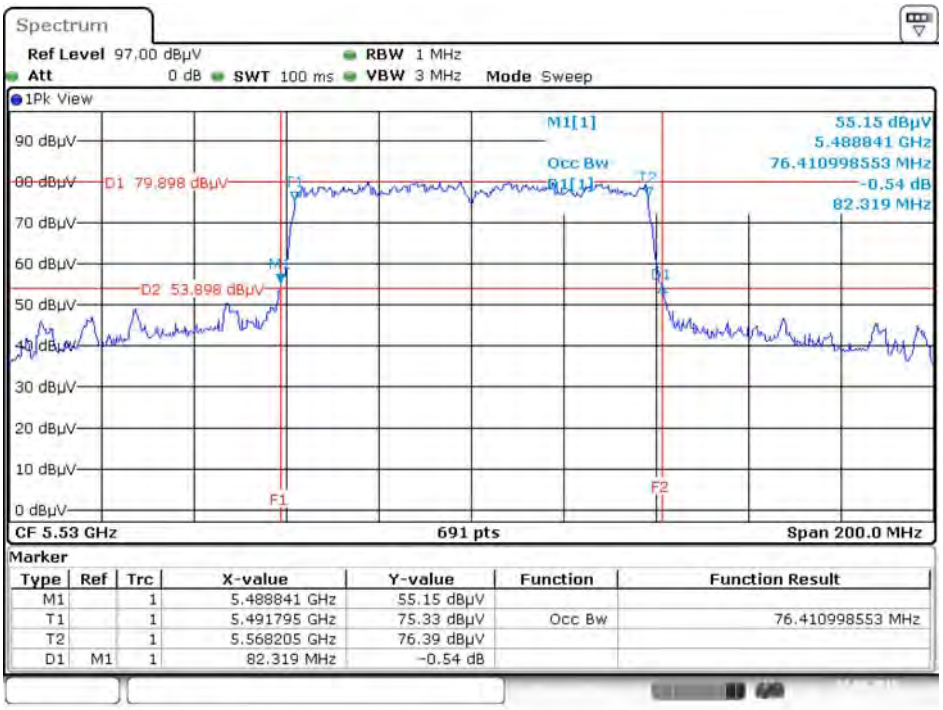
Date: 23.MAR.2015 23:08:51

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT80 / Chain 1 + Chain 2 + Chain 3 / 5290 MHz



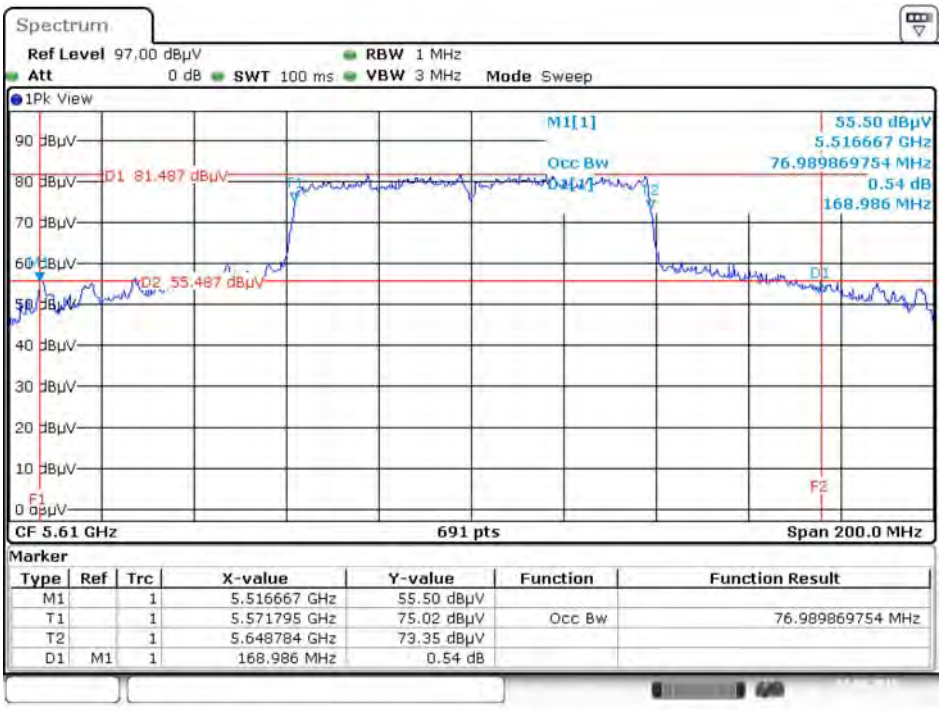
Date: 23.MAR.2015 23:09:24

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT80 / Chain 1 + Chain 2 + Chain 3 / 5530 MHz



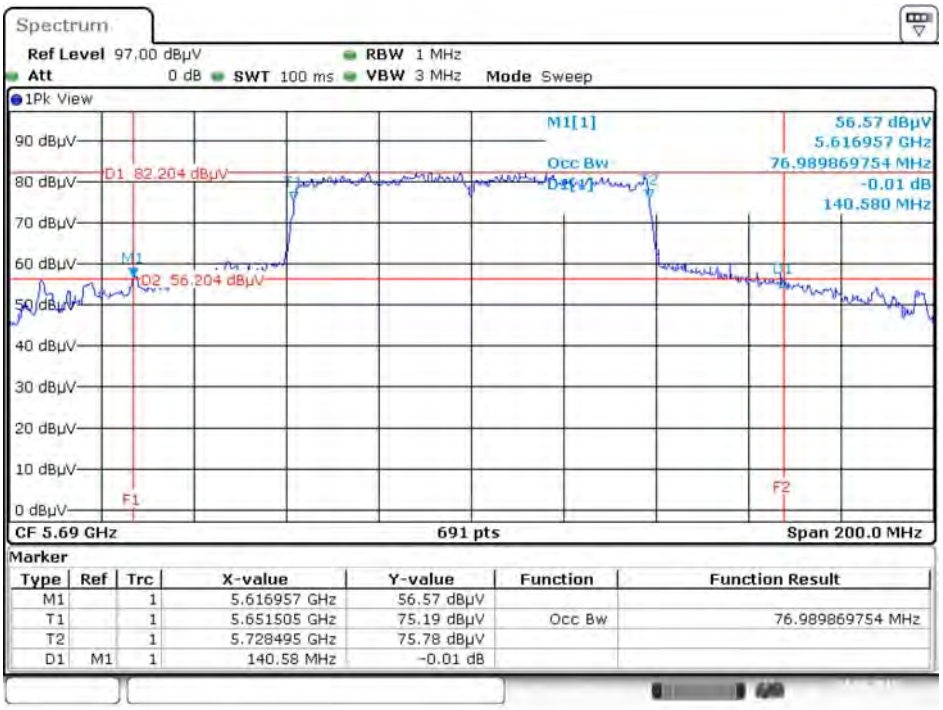
Date: 23.MAR.2015 23:09:54

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT80 / Chain 1 + Chain 2 + Chain 3 / 5610 MHz



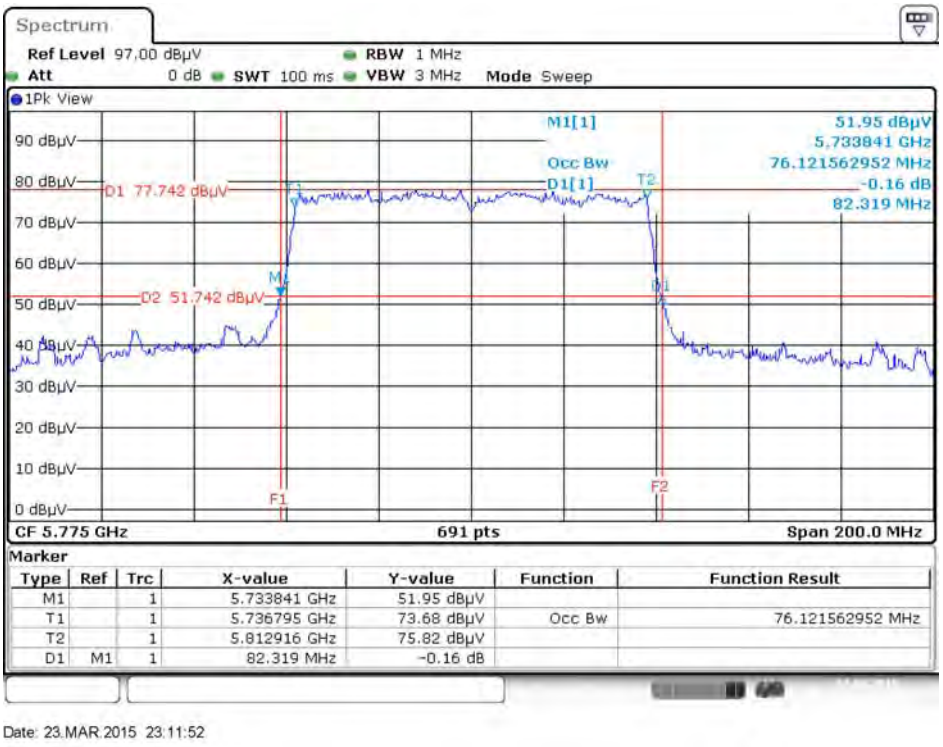
Date: 23.MAR.2015 23:10:52

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT80 / Chain 1 + Chain 2 + Chain 3 / 5690 MHz



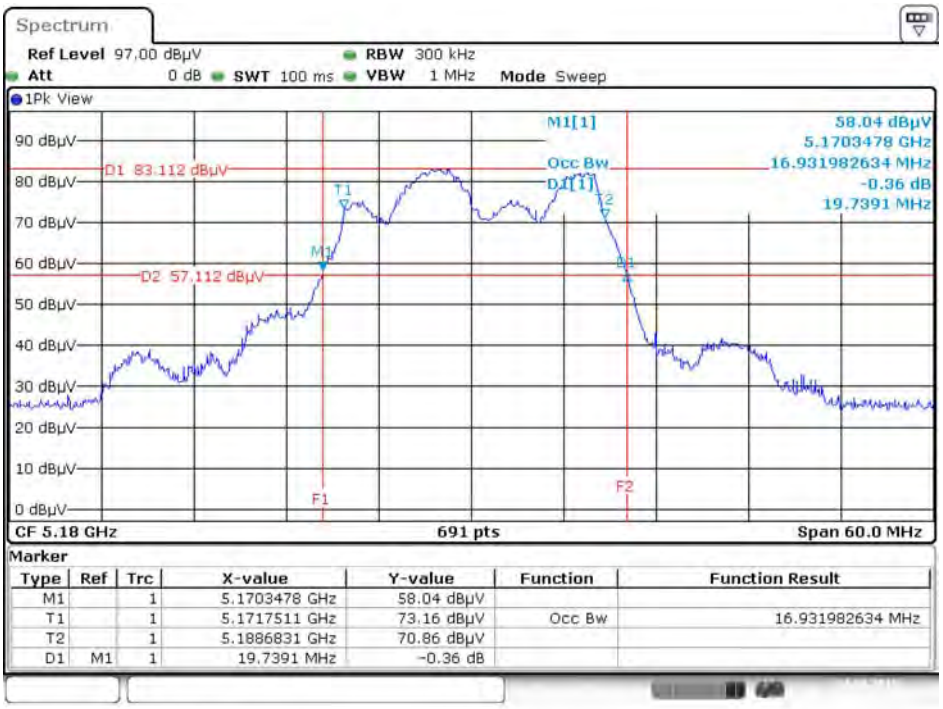
Date: 24.MAR.2015 02:25:44

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT80 / Chain 1 + Chain 2 + Chain 3 / 5775 MHz



Mode 2 (Ant. 3 Omnidirectional antenna / 6.7dBi)

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

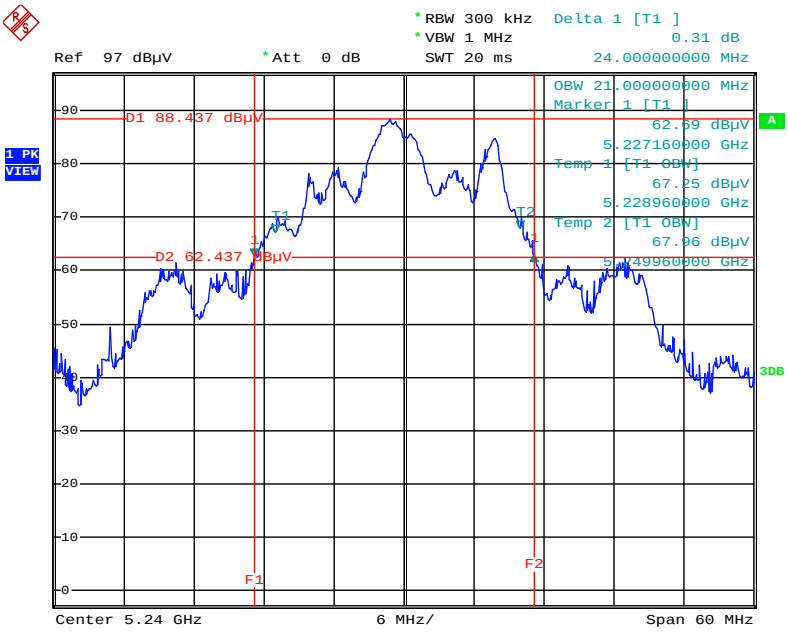


Date: 24.MAR.2015 00:49:33

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

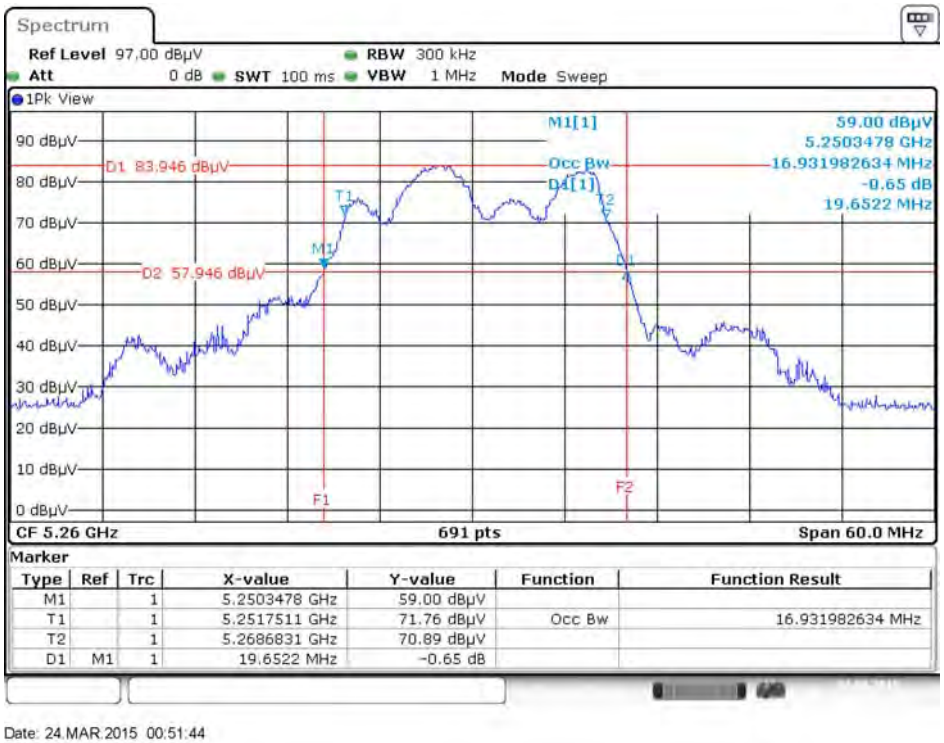
Date: 24.MAR.2015 00:50:31

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



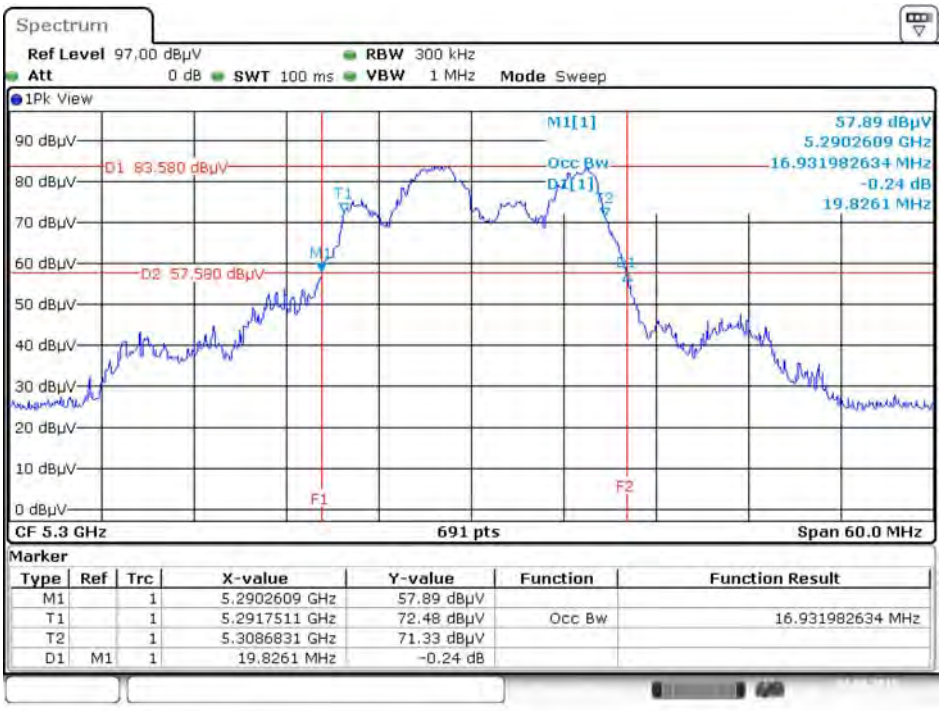
Date: 8.APR.2015 10:09:39

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



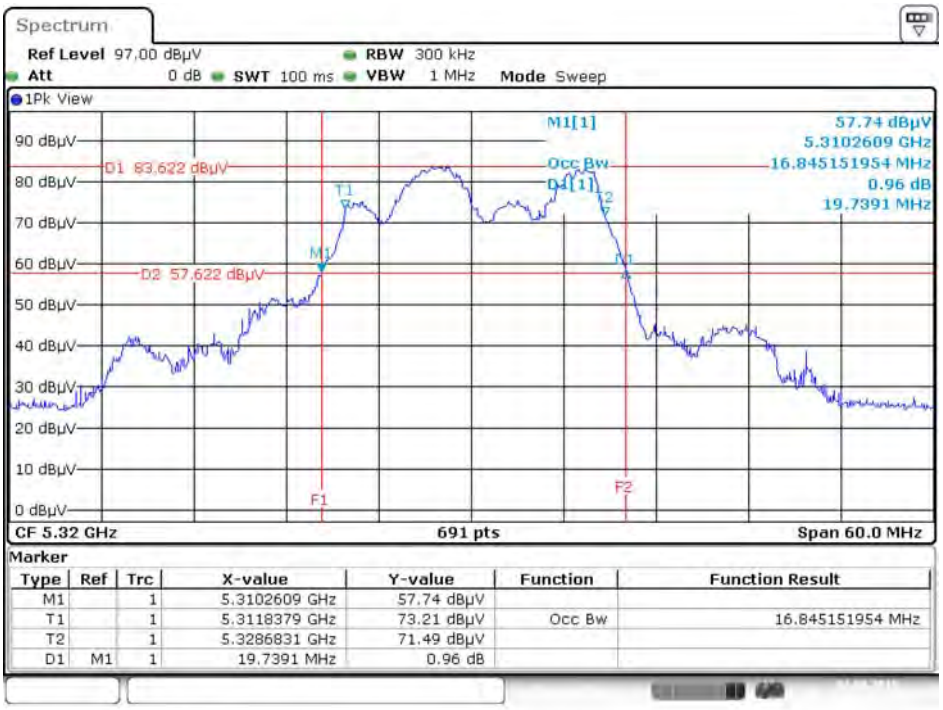
Date: 24.MAR.2015 00:51:44

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



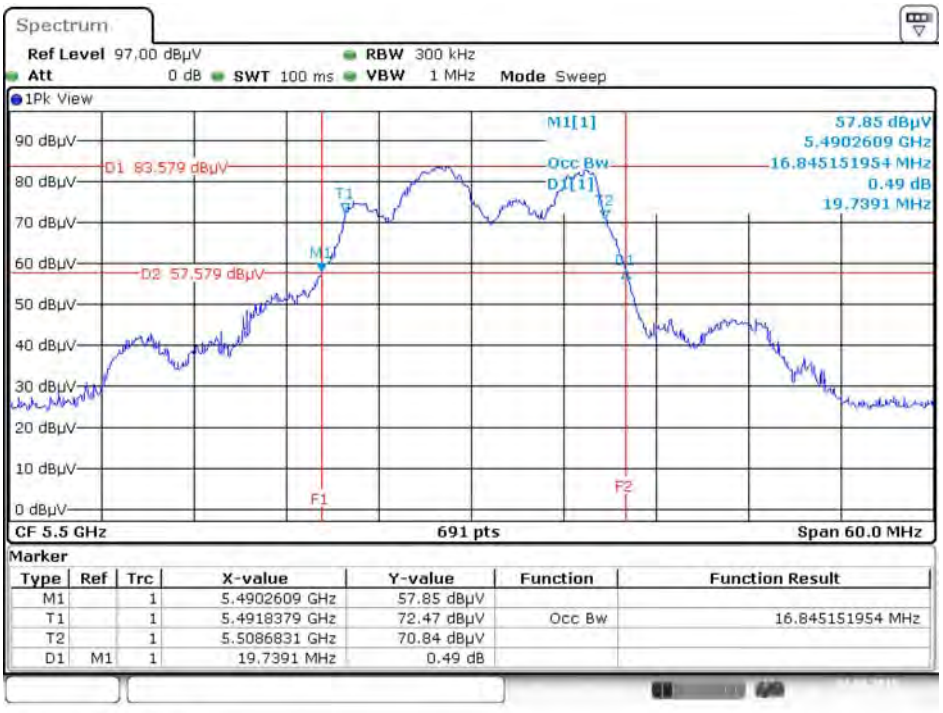
Date: 24.MAR.2015 00:52:25

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



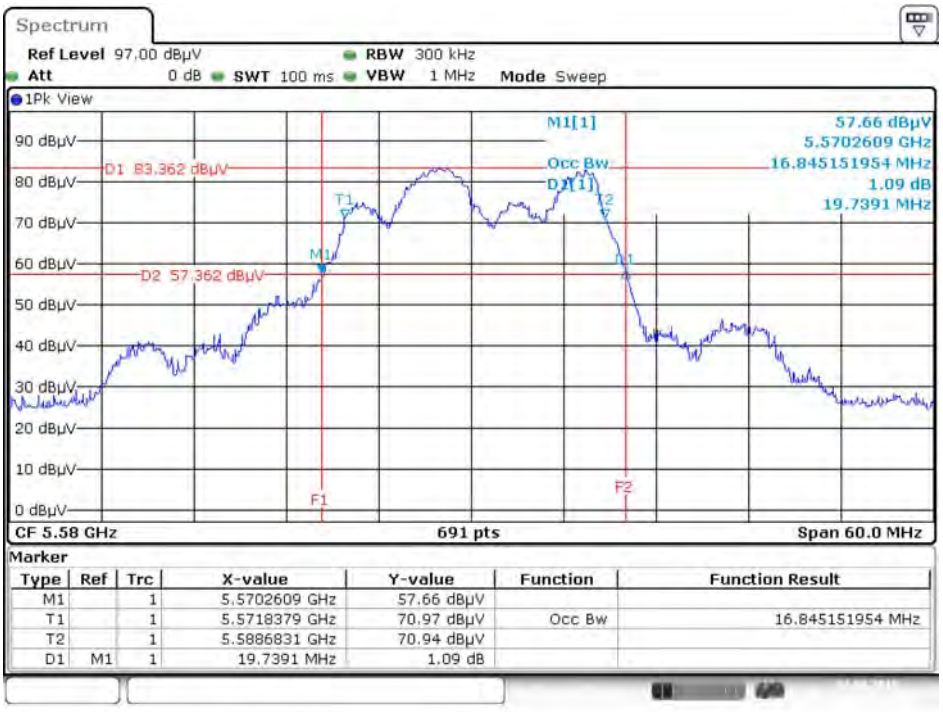
Date: 24.MAR.2015 00:52:58

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



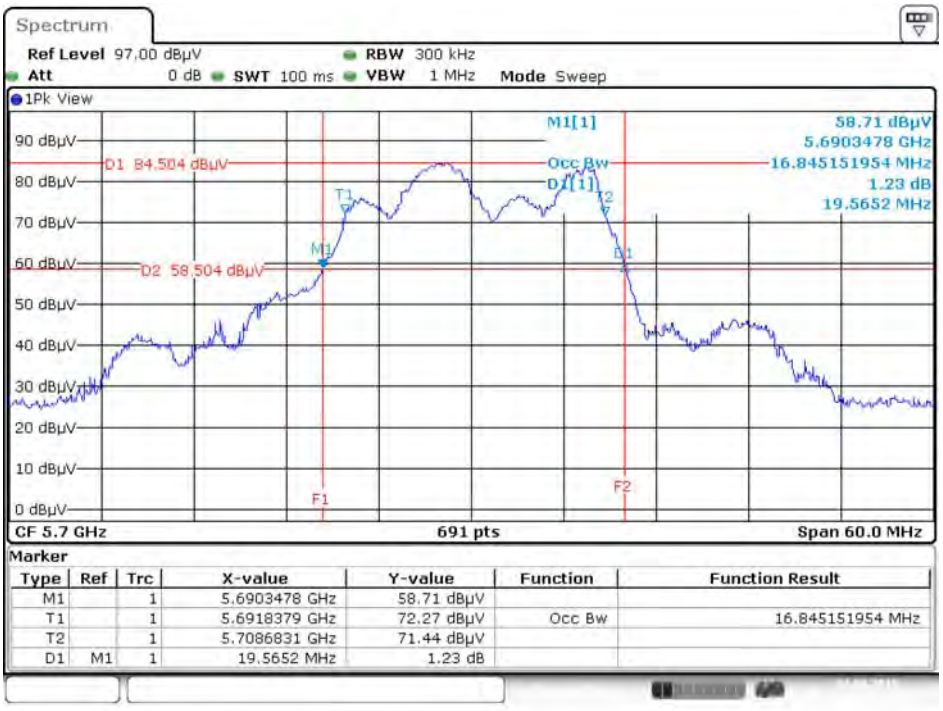
Date: 24.MAR.2015 00:53:40

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



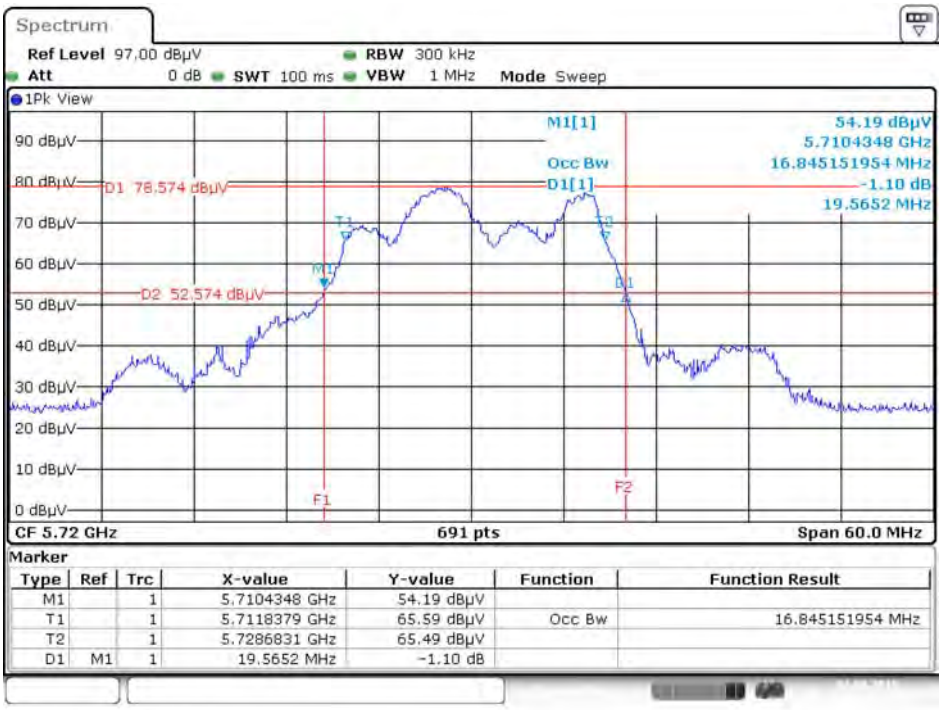
Date: 24.MAR.2015 00:54:18

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



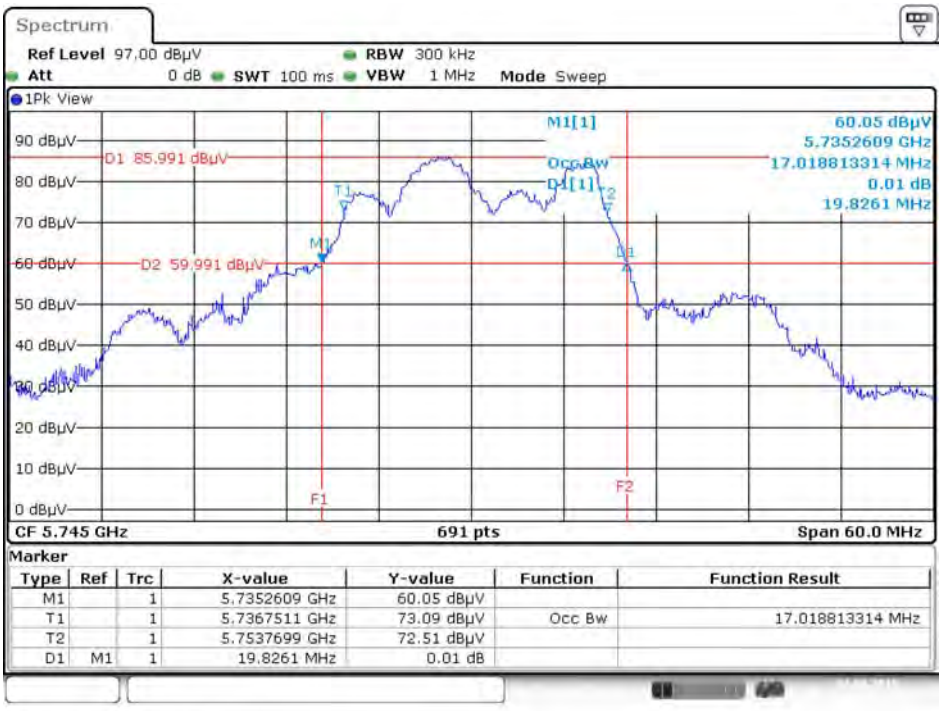
Date: 24.MAR.2015 00:54:52

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



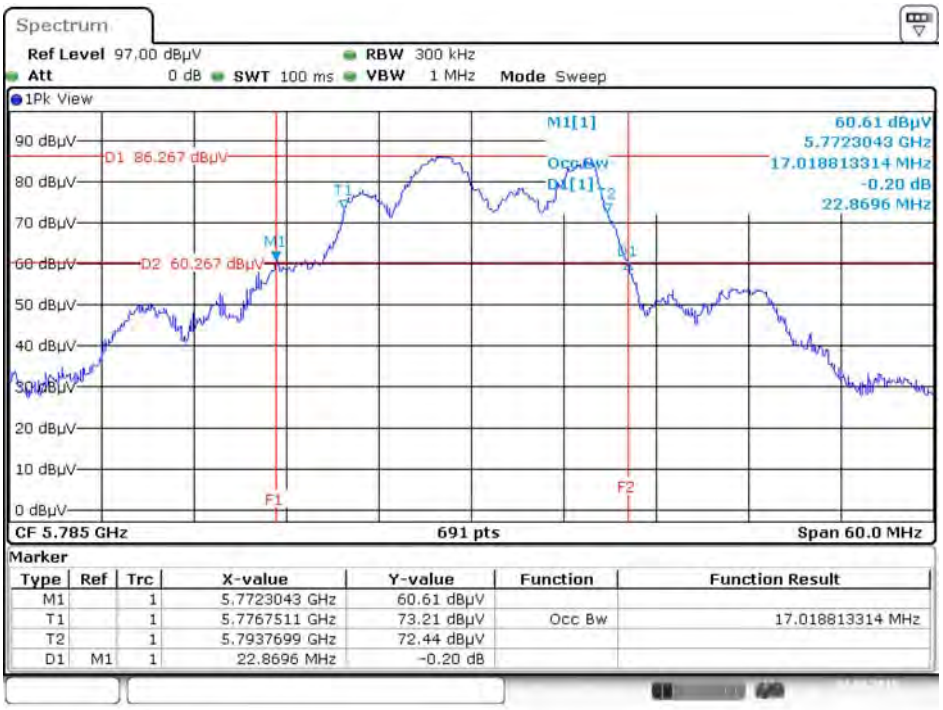
Date: 24.MAR.2015 02:39:05

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



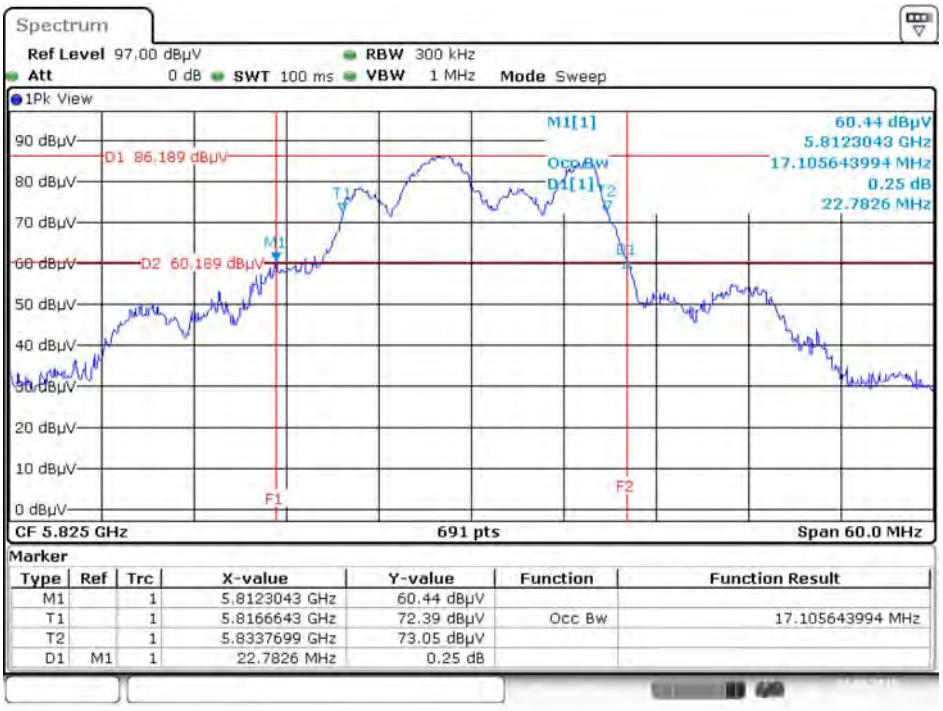
Date: 24.MAR.2015 00:55:27

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



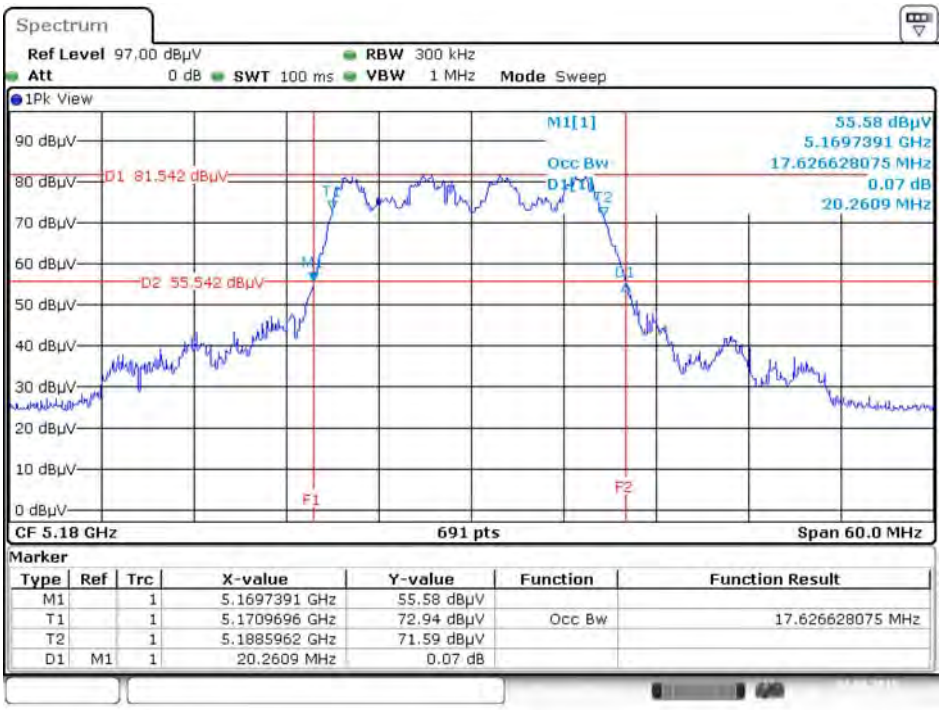
Date: 24.MAR.2015 00:56:02

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



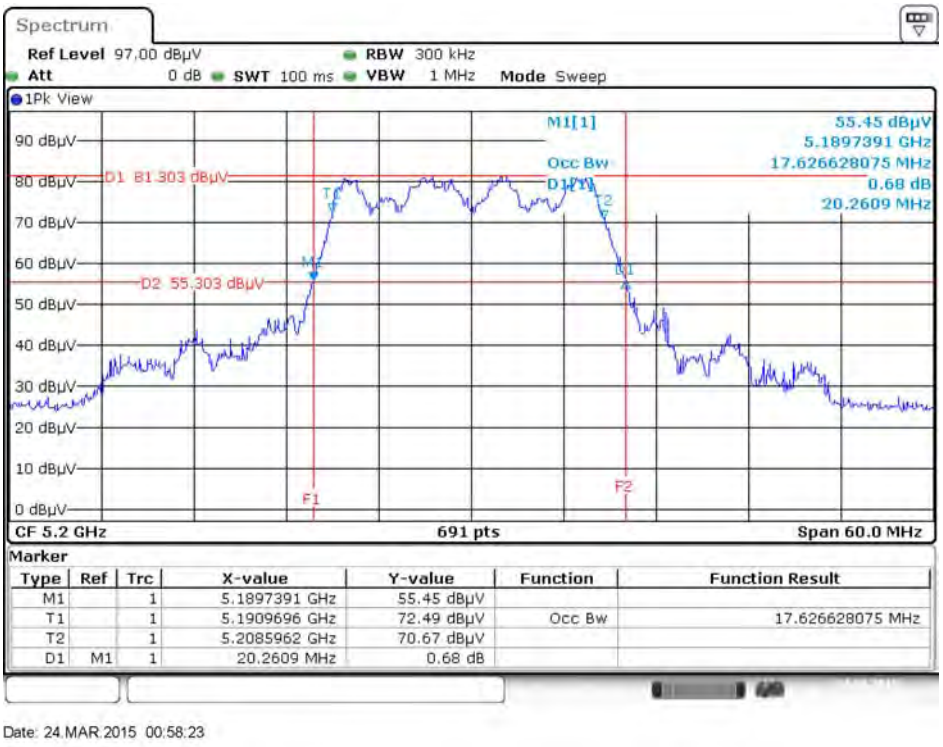
Date: 24.MAR.2015 00:56:32

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

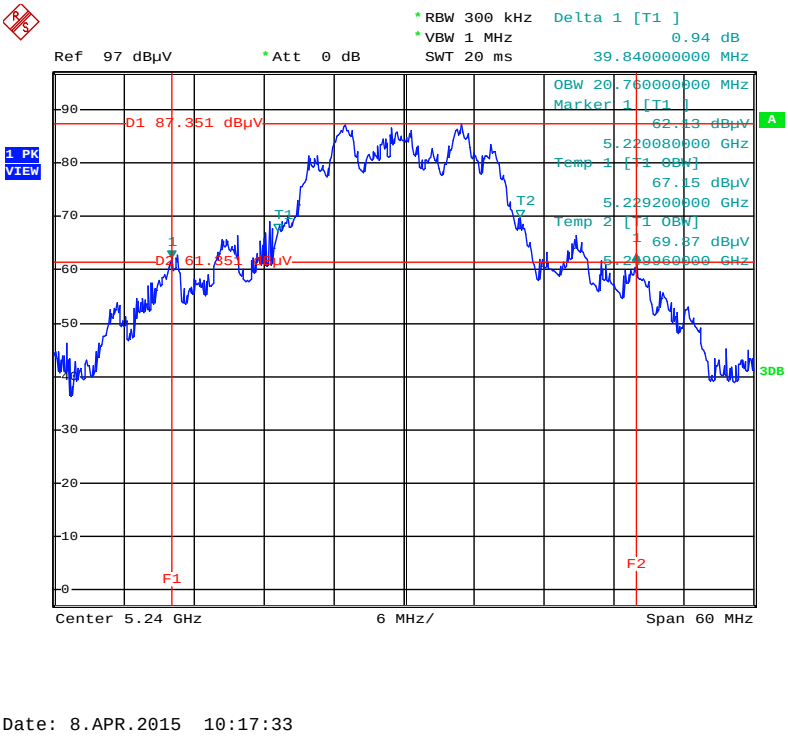


Date: 24.MAR.2015 00:57:48

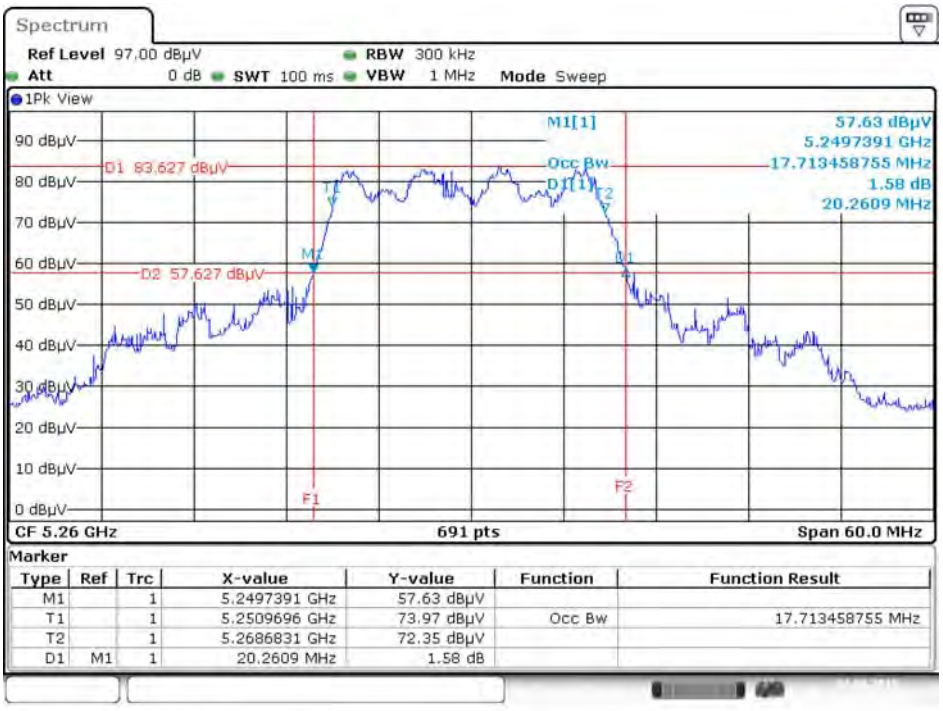
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5200 MHz



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

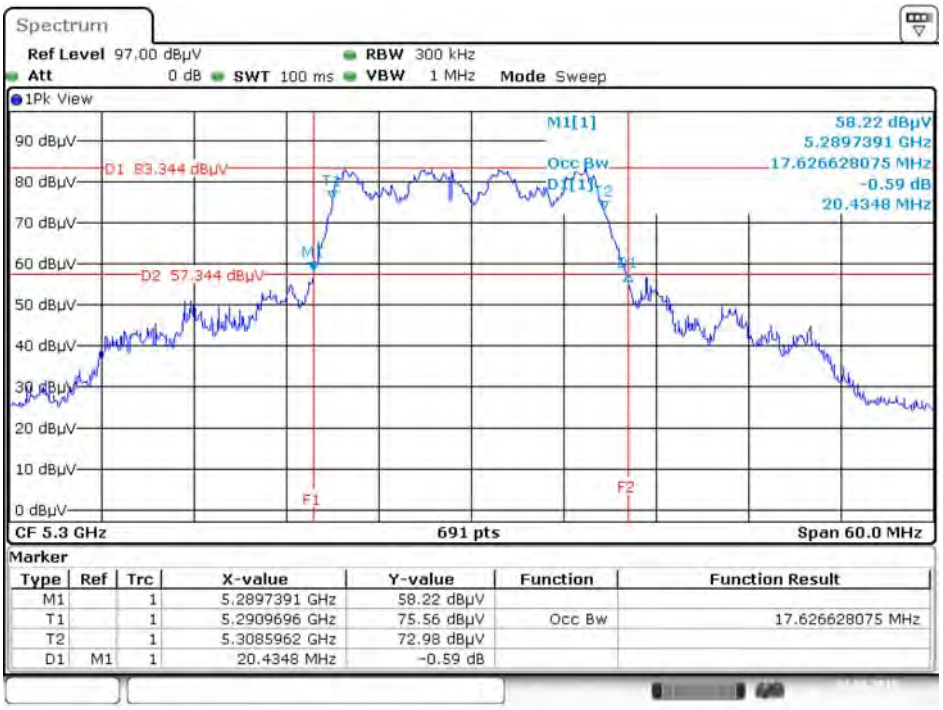


26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5260 MHz



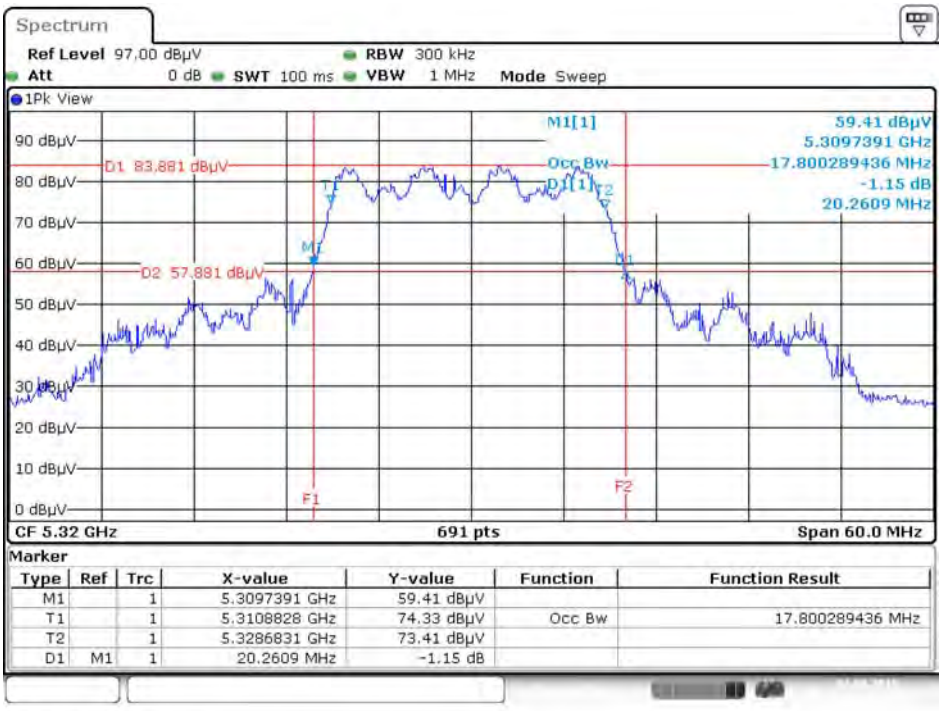
Date: 24.MAR.2015 00:59:32

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



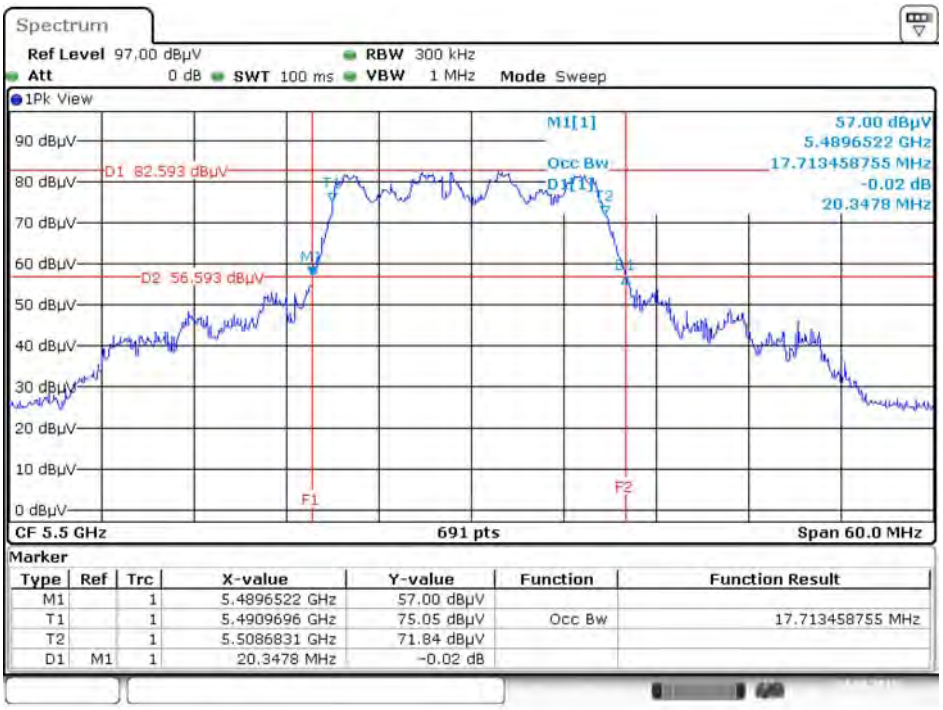
Date: 24.MAR.2015 01:00:06

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



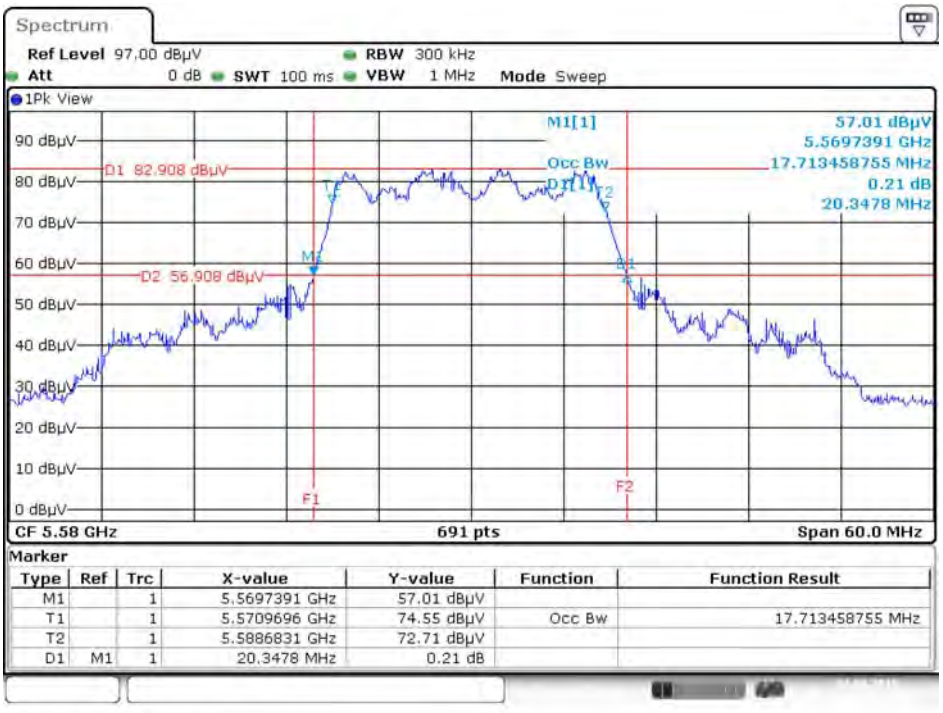
Date: 24.MAR.2015 01:01:16

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



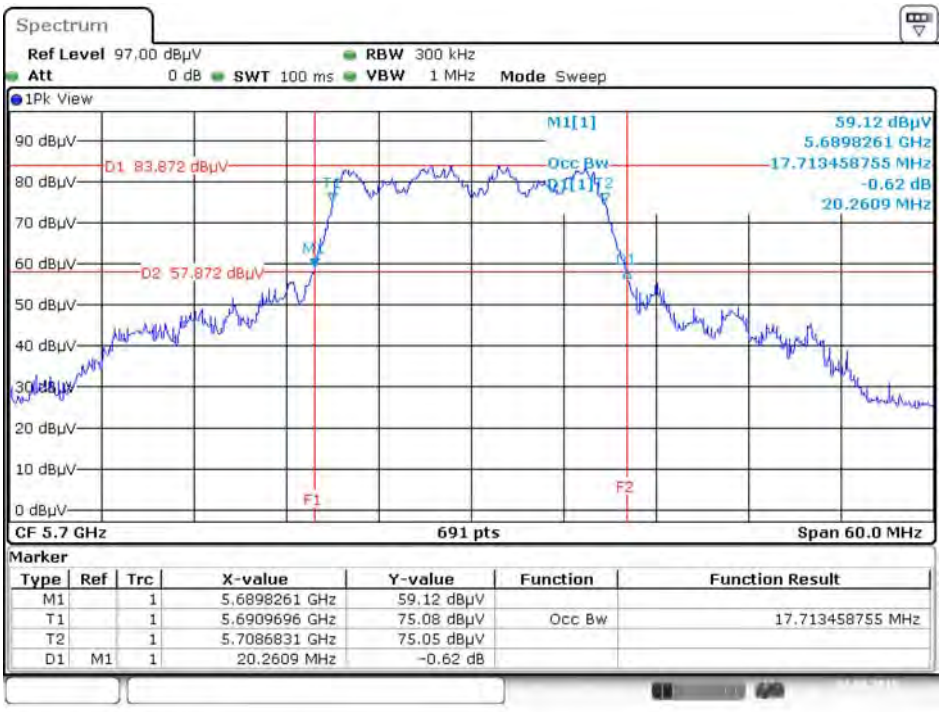
Date: 24.MAR.2015 01:01:59

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



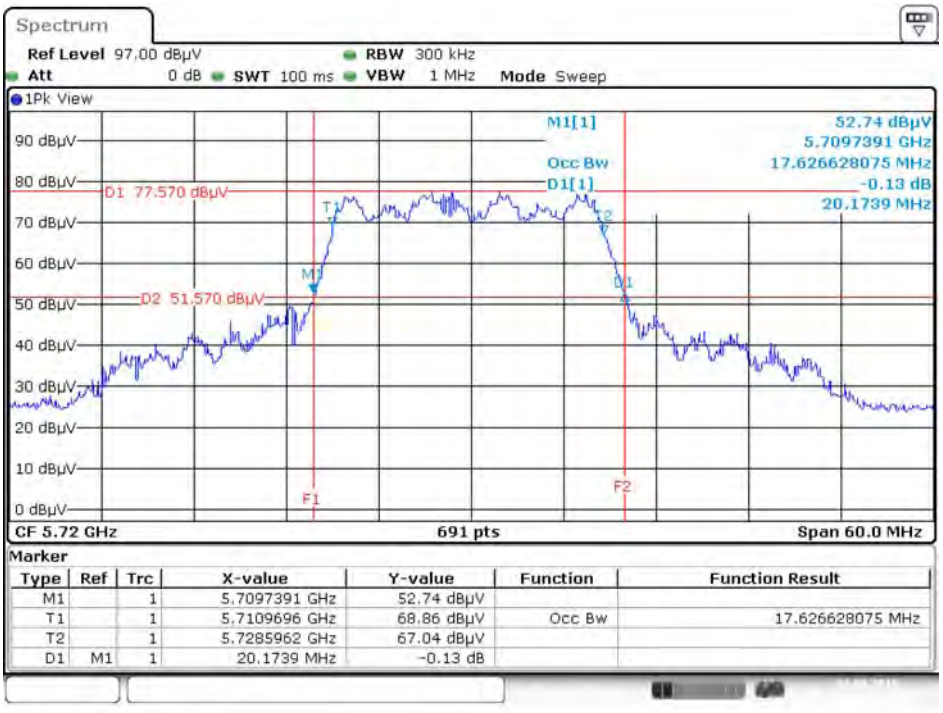
Date: 24.MAR.2015 01:02:59

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



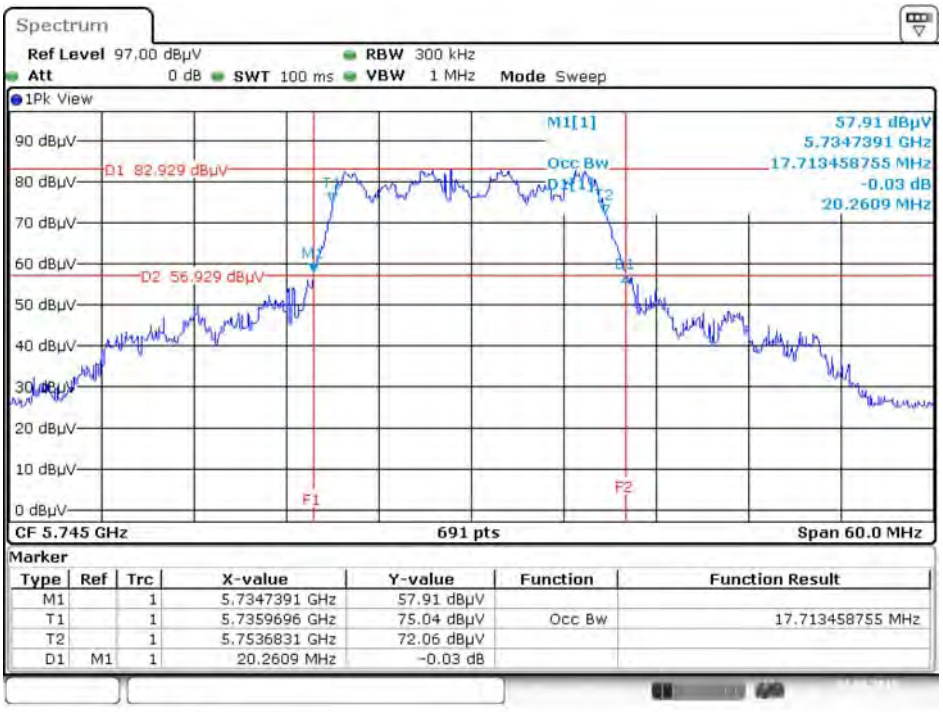
Date: 24.MAR.2015 01:04:02

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



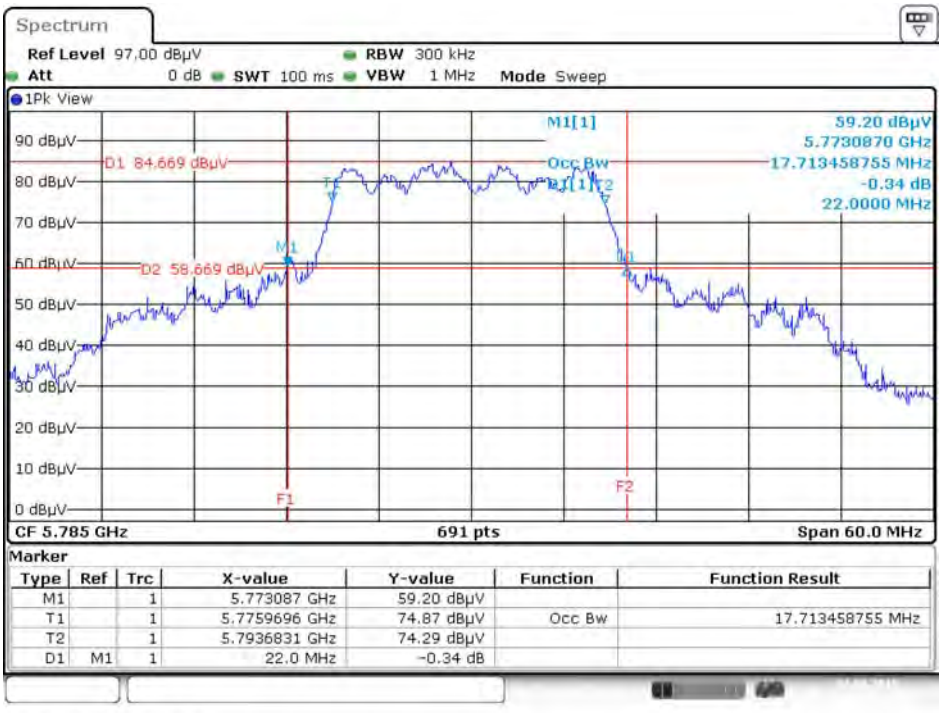
Date: 24.MAR.2015 02:38:29

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



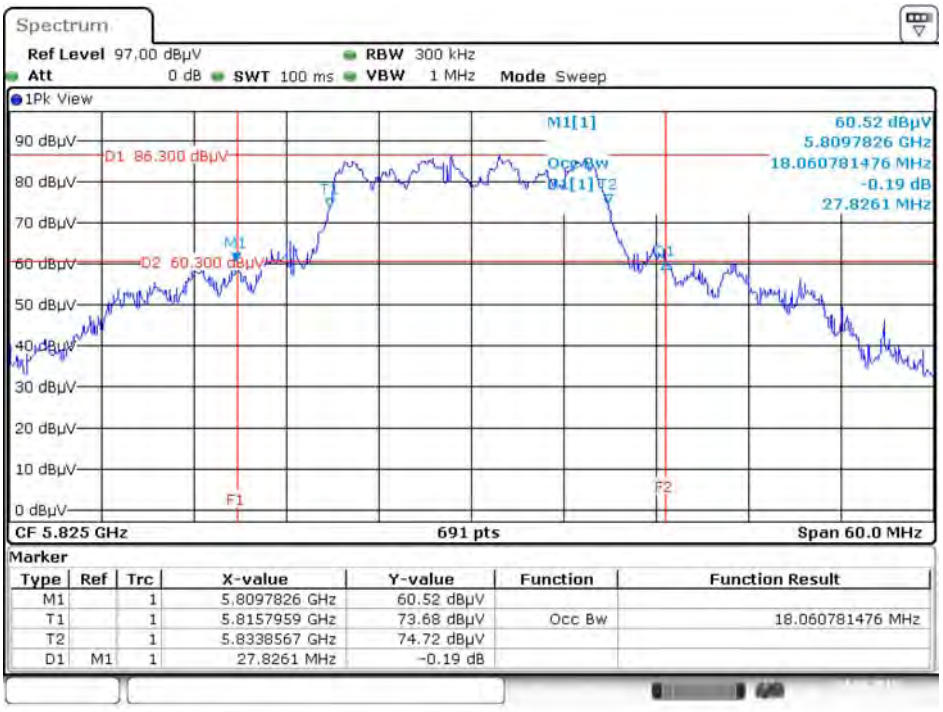
Date: 24.MAR.2015 01:05:12

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



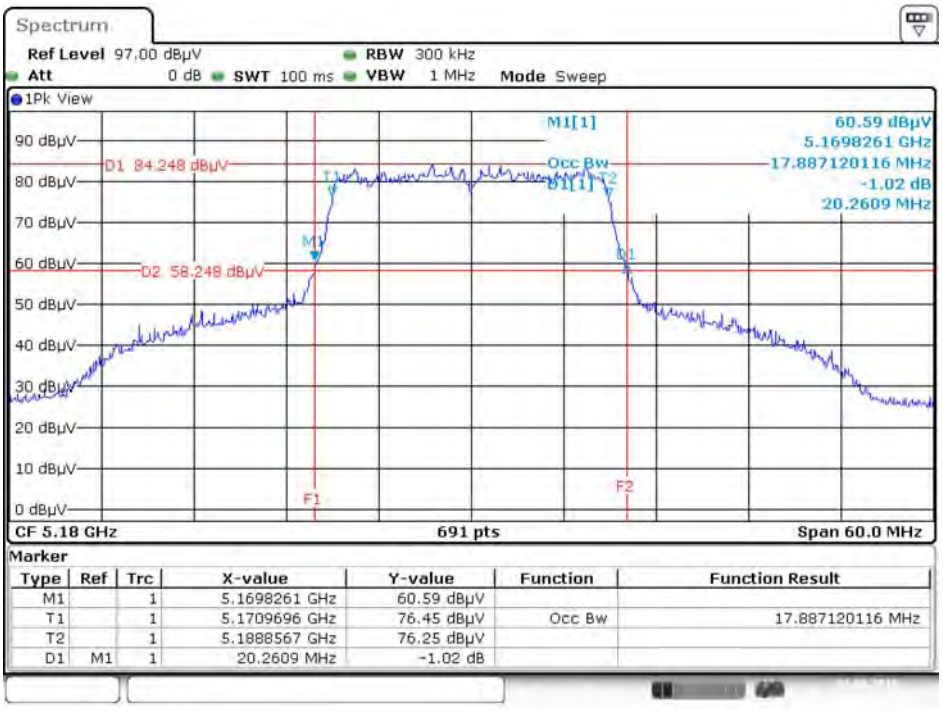
Date: 24.MAR.2015 01:05:43

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



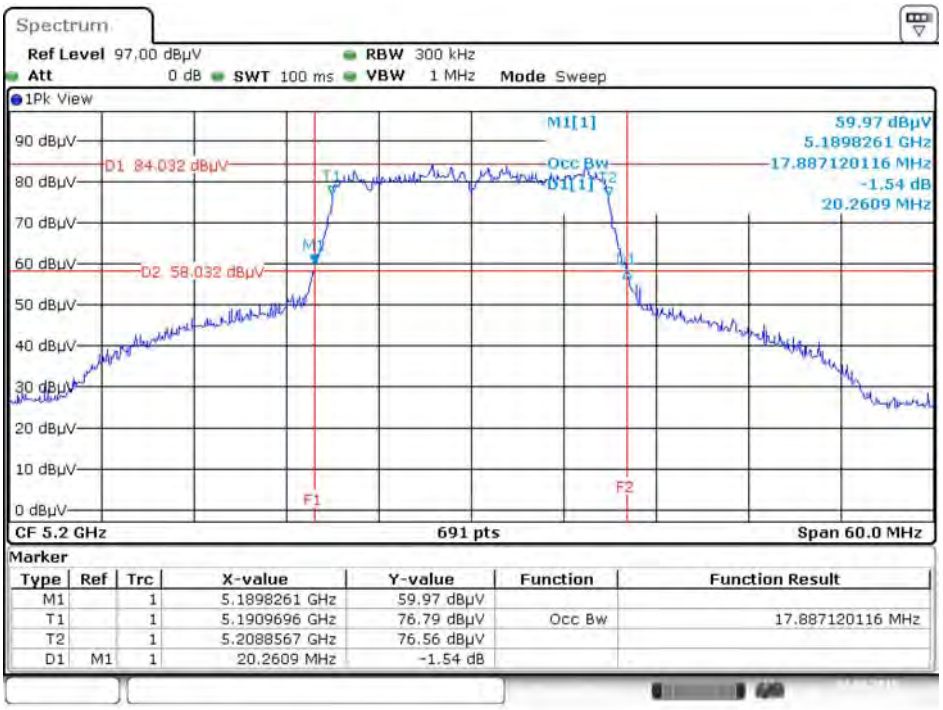
Date: 24.MAR.2015 01:06:09

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5180 MHz



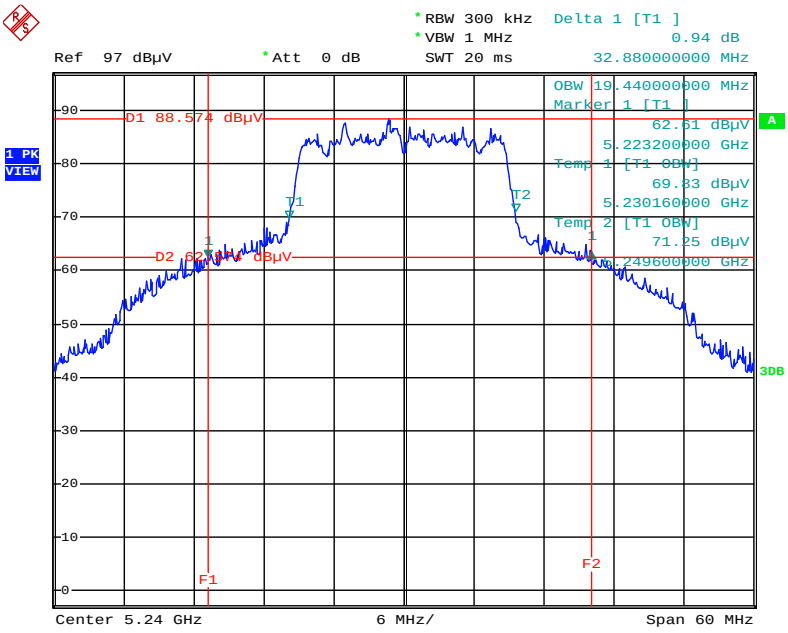
Date: 24.MAR.2015 01:19:37

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5200 MHz



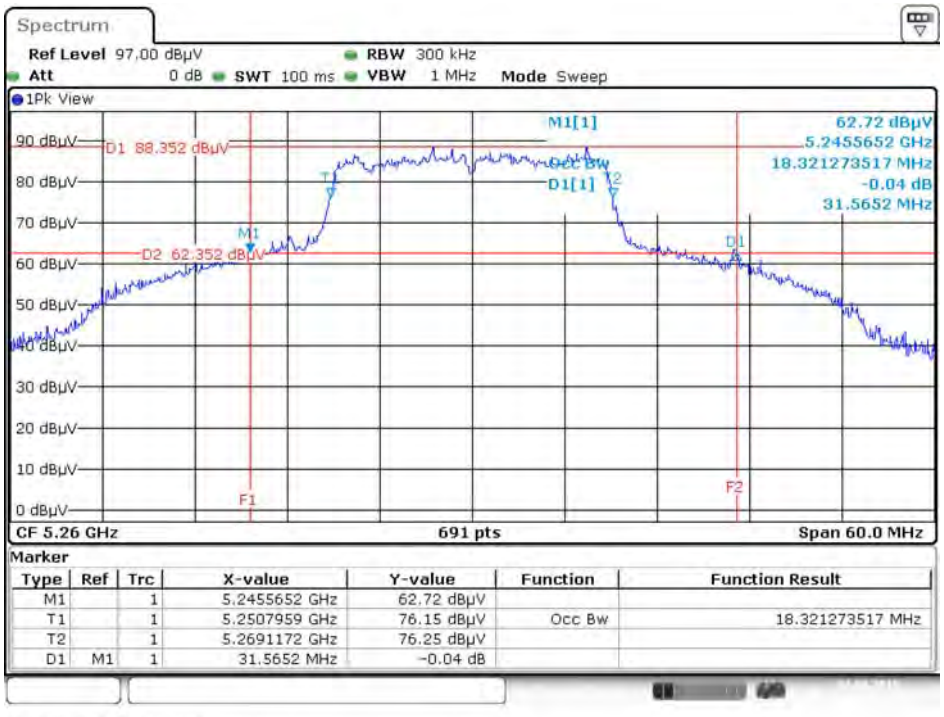
Date: 24.MAR.2015 01:20:36

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5240 MHz



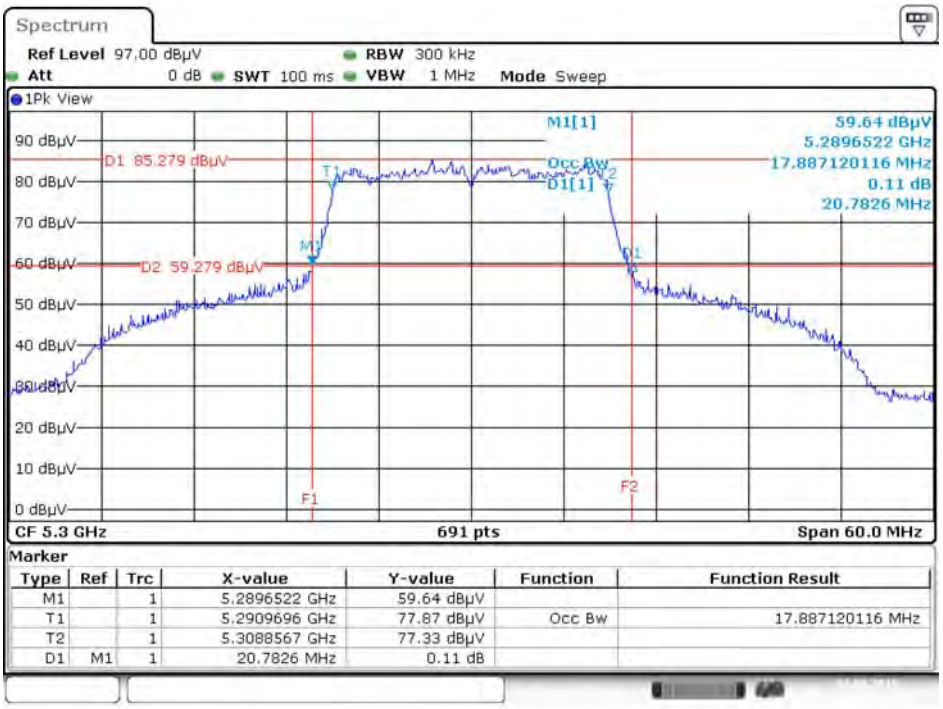
Date: 8.APR.2015 10:36:37

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5260 MHz



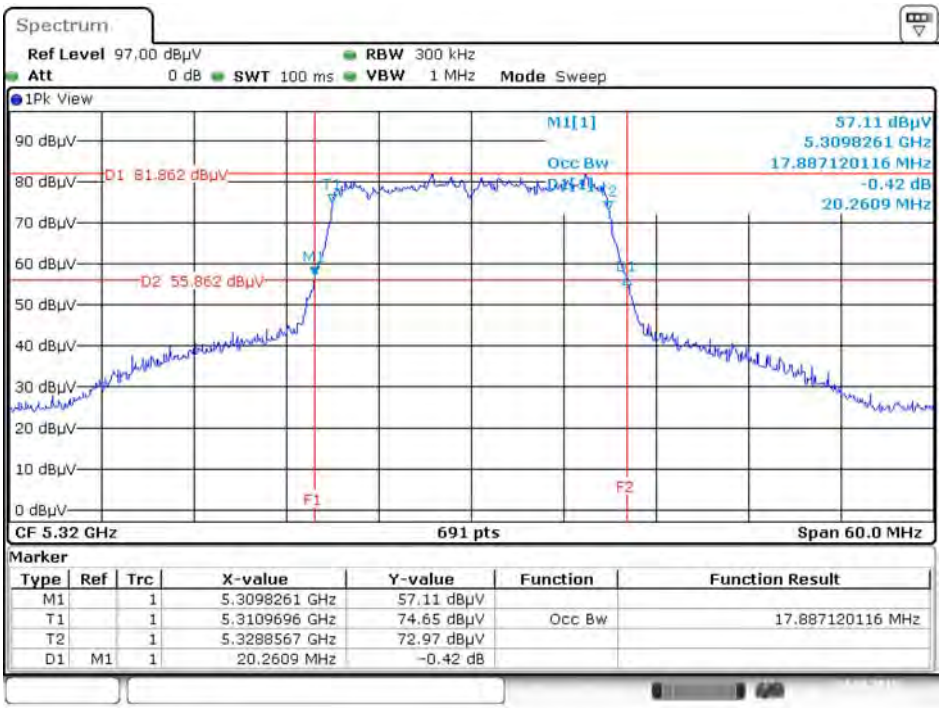
Date: 24.MAR.2015 01:21:27

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5300 MHz



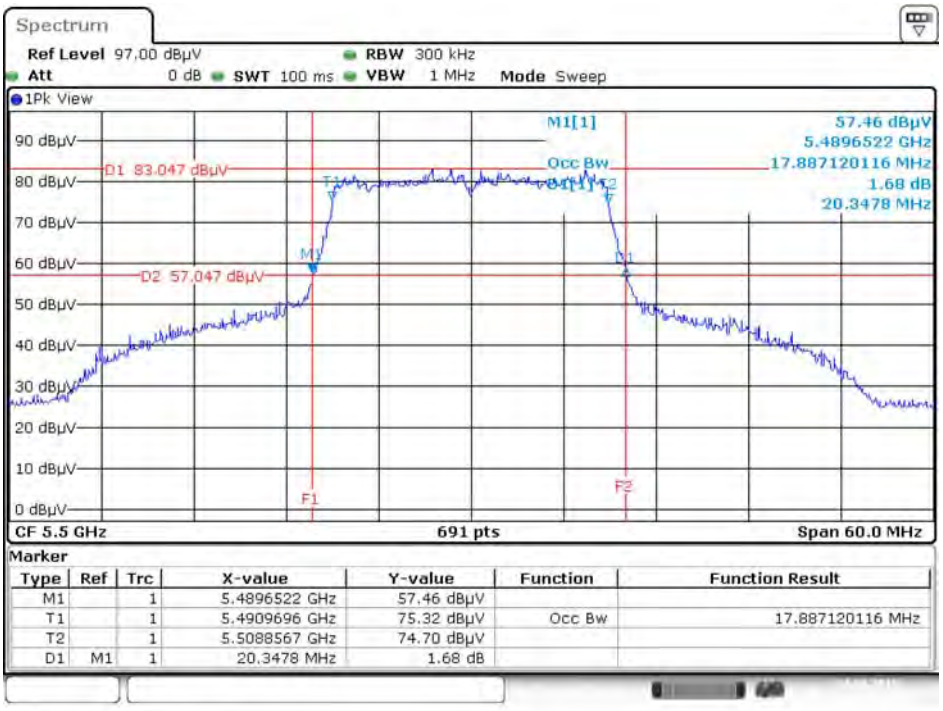
Date: 24.MAR.2015 01:21:54

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5320 MHz



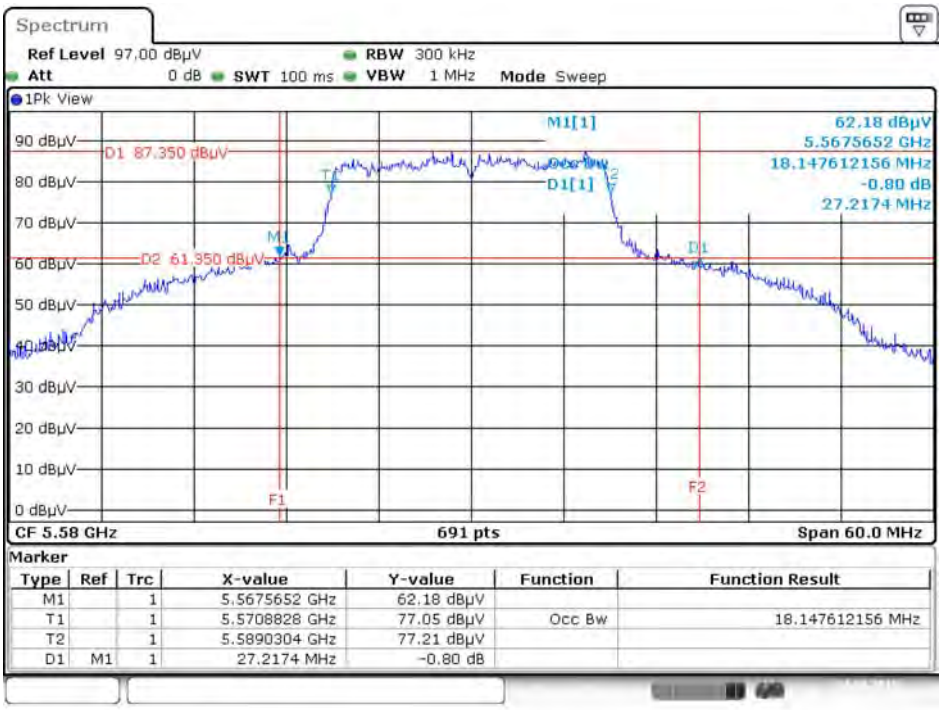
Date: 24.MAR.2015 01:22:22

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5500 MHz



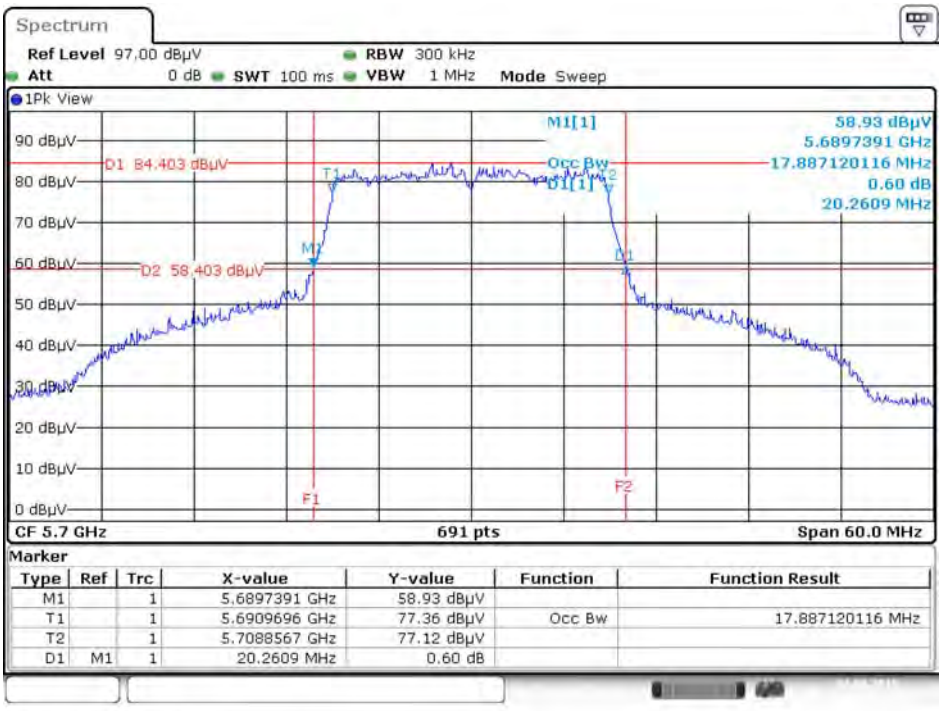
Date: 24.MAR.2015 01:23:03

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5580 MHz



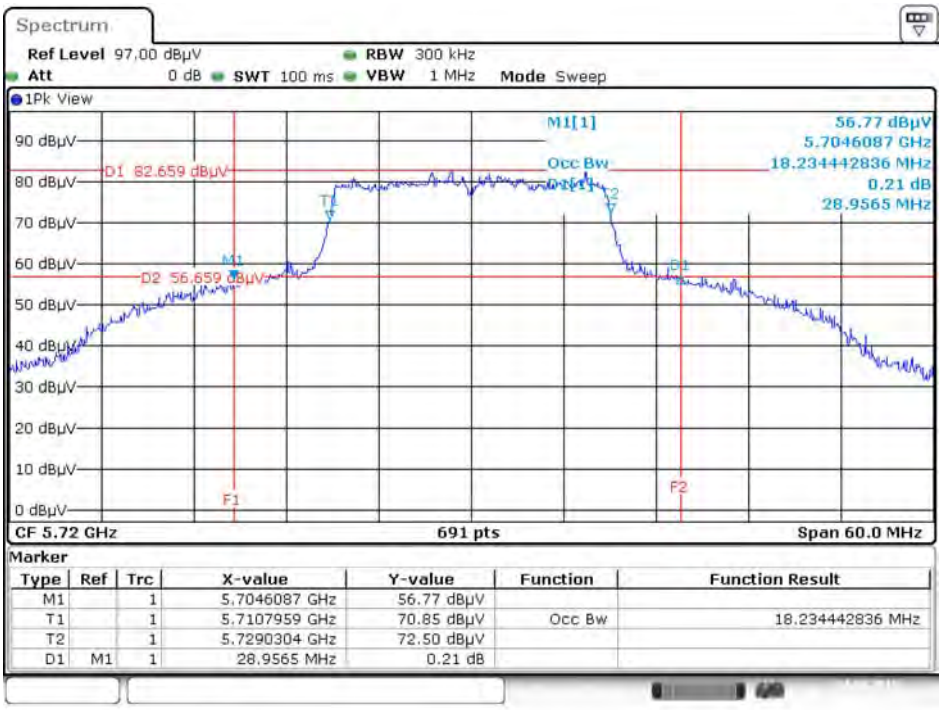
Date: 24.MAR.2015 01:23:27

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5700 MHz



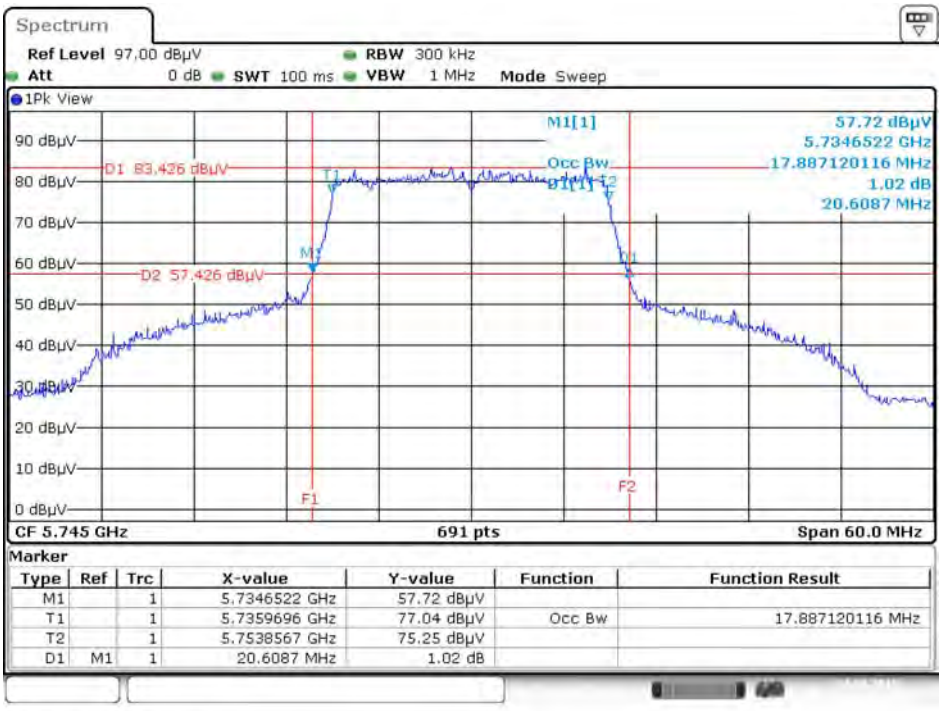
Date: 24.MAR.2015 01:23:48

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5720 MHz



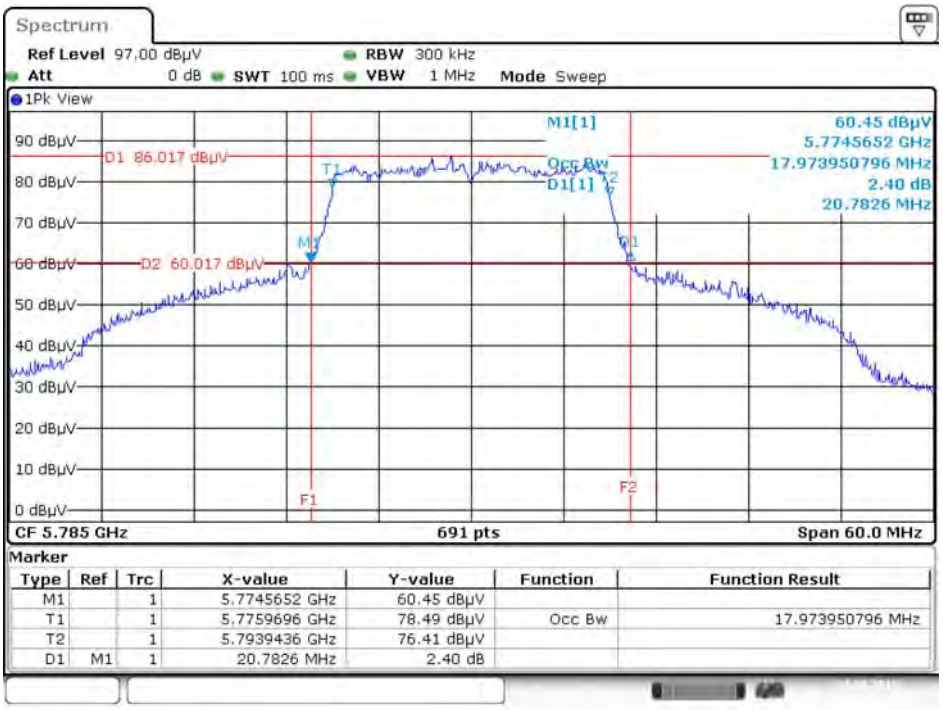
Date: 24.MAR.2015 02:34:35

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5745 MHz



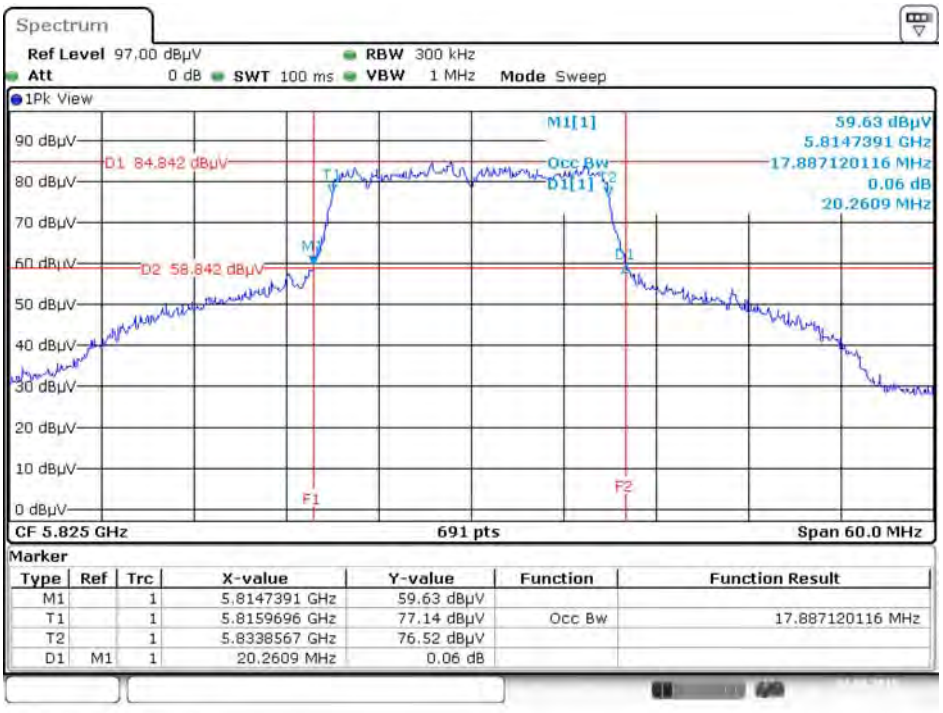
Date: 24.MAR.2015 01:24:11

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5785 MHz



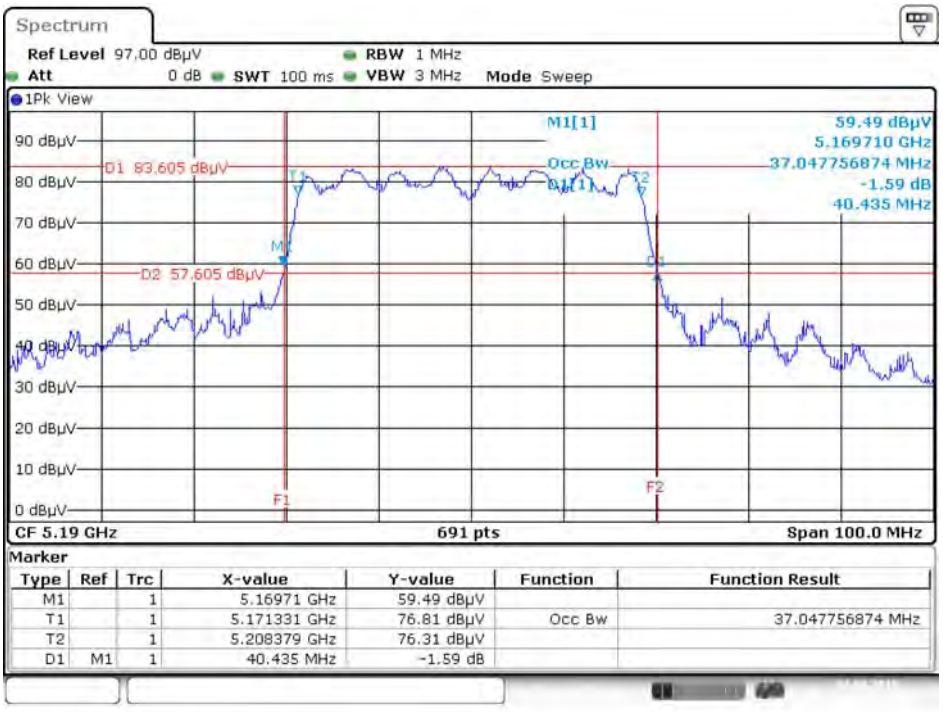
Date: 24.MAR.2015 01:24:34

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 VHT20 / Chain 1 + Chain 2 + Chain 3 / 5825 MHz



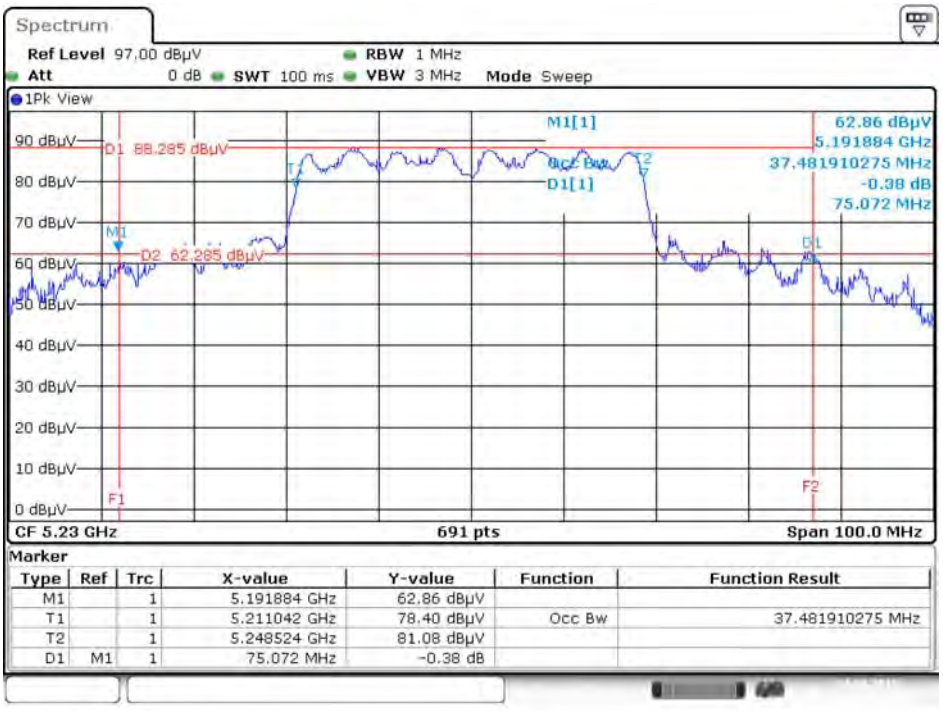
Date: 24.MAR.2015 01:24:59

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



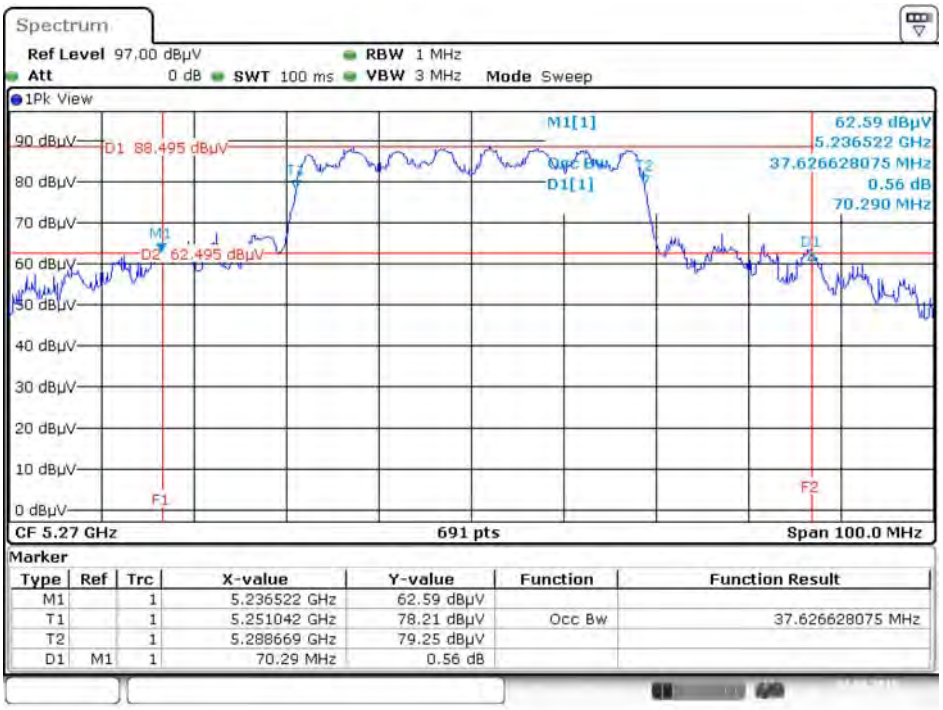
Date: 24.MAR.2015 01:07:09

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



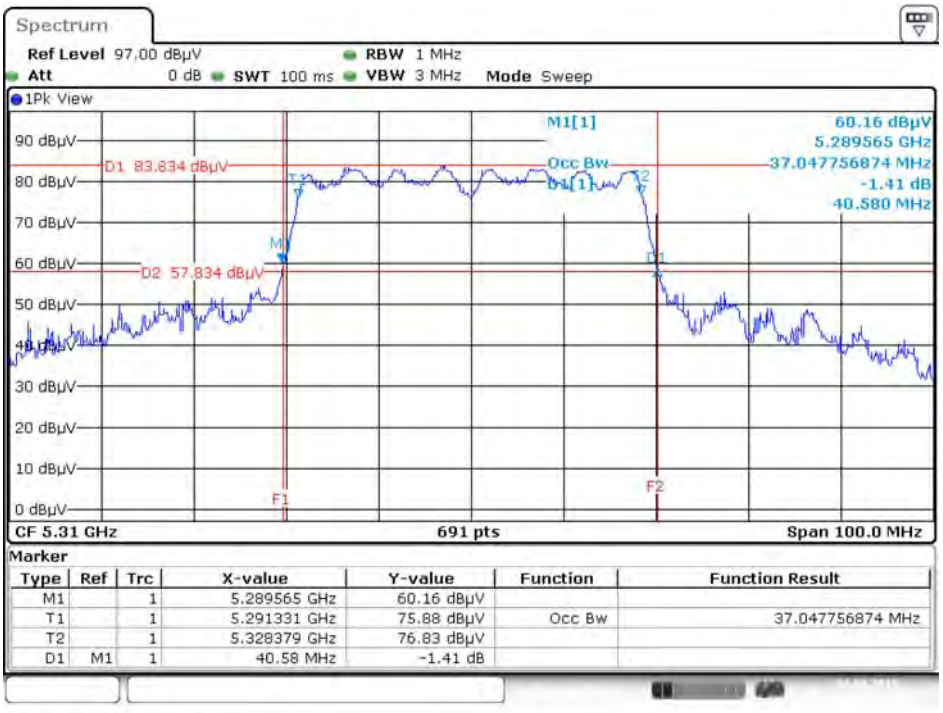
Date: 24.MAR.2015 01:07:52

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



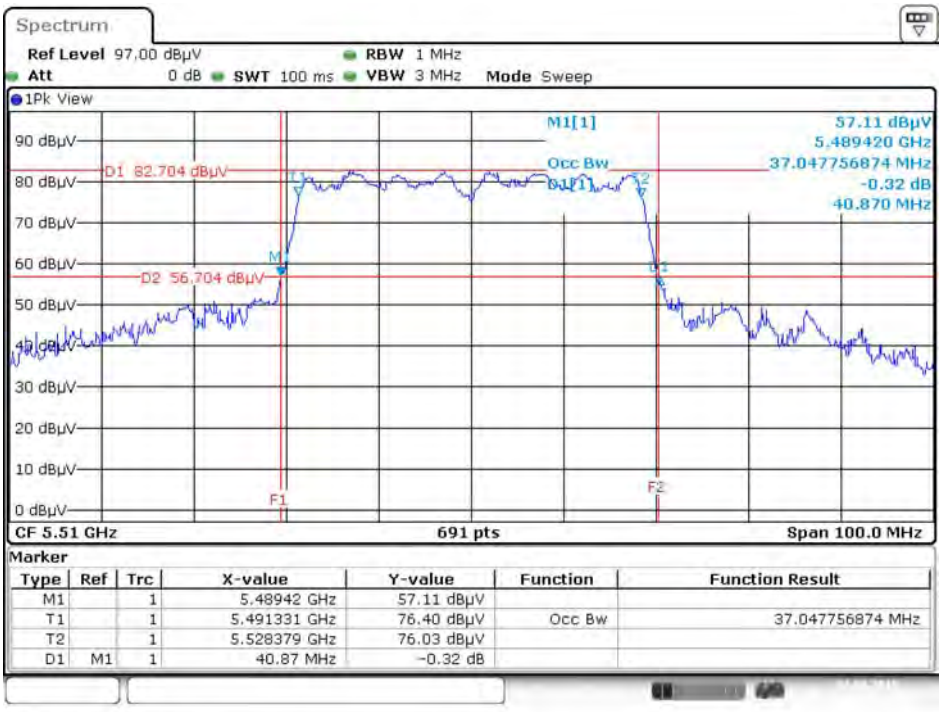
Date: 24.MAR.2015 01:08:28

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



Date: 24.MAR.2015 01:09:00

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



Date: 24.MAR.2015 01:09:34