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	**Motorola Solutions, Inc.**
Applicant Address	One Motorola Plaza Holtsville, NY 11742 USA
FCC ID	**UZ7AP7522**
Manufacturer's company	**Wistron NeWeb Corporation**
Manufacturer Address	20 Park Avenue II, Hsinchu Science Park, Hsinchu 308, Taiwan, R.O.C.

Product Name	Oak External
Brand Name	MOTOROLA
Model No.	AP-7522
Test Rule Part(s)	47 CFR FCC Part 15 Subpart E § 15.407
Test Freq. Range	5250 ~ 5350MHz / 5470 ~ 5725MHz
Received Date	Apr. 15, 2014
Final Test Date	Aug. 14, 2014
Submission Type	Class II Change
Operating Mode	Master and Client (without radar detection function)

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 C63.10-2009**, **47 CFR FCC Part 15 Subpart E, KDB789033 D02 v01, KDB662911 D01 v02r01, KDB644545 D01 v01r02.**

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
FR441804-08	Rev. 01	Initial issue of report	Oct. 02, 2014

Certificate No.: CB10307128

1. CERTIFICATE OF COMPLIANCE

Product Name	:	Oak External
Brand Name	:	MOTOROLA
Model No.	:	AP-7522
Applicant	:	Motorola Solutions, Inc.
Test Rule Part(s)	:	47 CFR FCC Part 15 Subpart E § 15.407

Sporton International as requested by the applicant to evaluate the EMC performance of the product sample received on Apr. 15, 2014 would like to declare that the tested sample has been evaluated and found to be in compliance with the tested rule parts. The data recorded as well as the test configuration specified is true and accurate for showing the sample's EMC nature.

Sam Chen
SPORTON INTERNATIONAL INC.

2. SUMMARY OF THE TEST RESULT

Applied Standard: 47 CFR FCC Part 15 Subpart E				
Part	**Rule Section**	**Description of Test**	**Result**	**Under Limit**
4.1	15.207	AC Power Line Conducted Emissions	Complies	7.10 dB
4.2	15.407(a)	26dB Spectrum Bandwidth and 99% Occupied Bandwidth	Complies	-
4.3	15.407(a)	Maximum Conducted Output Power	Complies	0.06 dB
4.4	15.407(a)	Power Spectral Density	Complies	0.03 dB
4.5	15.407(b)	Radiated Emissions	Complies	1.90 dB
4.6	15.407(b)	Band Edge Emissions	Complies	1.01 dB
4.7	15.407(g)	Frequency Stability	Complies	-
4.8	15.203	Antenna Requirements	Complies	-

3. GENERAL INFORMATION

3.1. Product Details

IEEE 802.11n/ac

Items	Description
Product Type	WLAN (1TX,2TX/1RX,2RX)
Radio Type	Intentional Transceiver
Power Type	From power adapter or PoE
Modulation	see the below table for IEEE 802.11n/ac
Data Modulation	For 802.11n: OFDM (BPSK / QPSK / 16QAM / 64QAM) For 802.11ac: OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)
Data Rate (Mbps)	see the below table for IEEE 802.11n/ac
Frequency Range	5250 ~ 5350MHz / 5470 ~ 5725MHz
Channel Number	16 for 20MHz bandwidth ; 8 for 40MHz bandwidth 4 for 80MHz bandwidth
Channel Band Width (99%)	**Mode 1 (Ant. 2 Dipole antenna / 5dBi)** For Non-Beamforming Mode: Band 2: 1TX: 802.11ac MCS0/Nss1 (VHT20): 18.88 MHz ; 802.11ac MCS0/Nss1 (VHT40): 36.80 MHz ; 802.11ac MCS0/Nss1 (VHT80): 76.80 MHz Band 3: 1TX: 802.11ac MCS0/Nss1 (VHT20): 18.88 MHz ; 802.11ac MCS0/Nss1 (VHT40): 36.48 MHz ; 802.11ac MCS0/Nss1 (VHT80): 77.44 MHz For STBC Mode: Band 2: 2TX: 802.11ac MCS0/Nss1 (VHT20): 18.88 MHz ; 802.11ac MCS0/Nss1 (VHT40): 36.80 MHz ; 802.11ac MCS0/Nss1 (VHT80): 76.16 MHz Band 3: 2TX: 802.11ac MCS0/Nss1 (VHT20): 18.56 MHz ; 802.11ac MCS0/Nss1 (VHT40): 36.80 MHz ; 802.11ac MCS0/Nss1 (VHT80): 77.44 MHz **Mode 2 (Ant. 4 Panel antenna / 5.1dBi)** For Non-Beamforming Mode: Band 2: 1TX: 802.11ac MCS0/Nss1 (VHT20): 18.88 MHz ;

	802.11ac MCS0/Nss1 (VHT40): 36.48 MHz ; 802.11ac MCS0/Nss1 (VHT80): 76.16 MHz Band 3: 1TX: 802.11ac MCS0/Nss1 (VHT20): 18.72 MHz ; 802.11ac MCS0/Nss1 (VHT40): 36.80 MHz ; 802.11ac MCS0/Nss1 (VHT80): 77.44 MHz For STBC Mode: Band 2: 2TX: 802.11ac MCS0/Nss1 (VHT20): 18.72 MHz ; 802.11ac MCS0/Nss1 (VHT40): 36.48 MHz ; 802.11ac MCS0/Nss1 (VHT80): 76.16 MHz Band 3: 2TX: 802.11ac MCS0/Nss1 (VHT20): 18.72 MHz ; 802.11ac MCS0/Nss1 (VHT40): 36.80 MHz ; 802.11ac MCS0/Nss1 (VHT80): 76.80 MHz
Maximum Conducted Output Power	**Mode 1 (Ant. 2 Dipole antenna / 5dBi)** For Non-Beamforming Mode: Band 2: 1TX: 802.11n MCS0 (HT20): 18.31 dBm ; 802.11n MCS0 (HT40): 17.41 dBm ; 802.11ac MCS0/Nss1 (VHT20): 18.49 dBm ; 802.11ac MCS0/Nss1 (VHT40): 17.46 dBm ; 802.11ac MCS0/Nss1 (VHT80): 13.42 dBm Band 3: 1TX: 802.11n MCS0 (HT20): 20.48 dBm ; 802.11n MCS0 (HT40): 17.82 dBm ; 802.11ac MCS0/Nss1 (VHT20): 20.53 dBm ; 802.11ac MCS0/Nss1 (VHT40): 17.74 dBm ; 802.11ac MCS0/Nss1 (VHT80): 19.53 dBm Band 2: 2TX: 802.11n MCS0 (HT20): 20.98 dBm ; 802.11n MCS0 (HT40): 20.59 dBm ; 802.11ac MCS0/Nss1 (VHT20): 20.94 dBm ; 802.11ac MCS0/Nss1 (VHT40): 20.60 dBm ; 802.11ac MCS0/Nss1 (VHT80): 14.92 dBm Band 3: 2TX: 802.11n MCS0 (HT20): 22.47 dBm ; 802.11n MCS0 (HT40): 21.29 dBm ;

	802.11ac MCS0/Nss1 (VHT20): 22.43 dBm ; 802.11ac MCS0/Nss1 (VHT40): 21.39 dBm ; 802.11ac MCS0/Nss1 (VHT80): 22.15 dBm For Beamforming Mode: Band 2: 2TX: 802.11ac MCS0/Nss1 (VHT20): 20.66 dBm ; 802.11ac MCS0/Nss1 (VHT40): 20.48 dBm ; 802.11ac MCS0/Nss1 (VHT80): 13.43 dBm Band 3: 2TX: 802.11ac MCS0/Nss1 (VHT20): 21.93 dBm ; 802.11ac MCS0/Nss1 (VHT40): 21.39 dBm ; 802.11ac MCS0/Nss1 (VHT80): 20.98 dBm For STBC Mode: Band 2: 2TX: 802.11ac MCS0/Nss1 (VHT20): 22.25 dBm ; 802.11ac MCS0/Nss1 (VHT40): 20.69 dBm ; 802.11ac MCS0/Nss1 (VHT80): 15.55 dBm Band 3: 2TX: 802.11ac MCS0/Nss1 (VHT20): 23.41 dBm ; 802.11ac MCS0/Nss1 (VHT40): 21.32 dBm ; 802.11ac MCS0/Nss1 (VHT80): 22.02 dBm **Mode 2 (Ant. 4 Panel antenna / 5.1dBi)** For Non-Beamforming Mode: Band 2: 1TX: 802.11n MCS0 (HT20): 19.67 dBm ; 802.11n MCS0 (HT40): 17.81 dBm ; 802.11ac MCS0/Nss1 (VHT20): 19.71 dBm ; 802.11ac MCS0/Nss1 (VHT40): 17.88 dBm ; 802.11ac MCS0/Nss1 (VHT80): 13.06 dBm Band 3: 1TX: 802.11n MCS0 (HT20): 19.60 dBm ; 802.11n MCS0 (HT40): 18.28 dBm ; 802.11ac MCS0/Nss1 (VHT20): 19.58 dBm ; 802.11ac MCS0/Nss1 (VHT40): 18.31 dBm ; 802.11ac MCS0/Nss1 (VHT80): 18.55 dBm Band 2: 2TX: 802.11n MCS0 (HT20): 22.16 dBm ; 802.11n MCS0 (HT40): 20.83 dBm ;

	802.11ac MCS0/Nss1 (VHT20): 21.96 dBm ; 802.11ac MCS0/Nss1 (VHT40): 20.82 dBm ; 802.11ac MCS0/Nss1 (VHT80): 13.47 dBm Band 3: 2TX: 802.11n MCS0 (HT20): 21.99 dBm ; 802.11n MCS0 (HT40): 20.88 dBm ; 802.11ac MCS0/Nss1 (VHT20): 21.90 dBm ; 802.11ac MCS0/Nss1 (VHT40): 20.90 dBm ; 802.11ac MCS0/Nss1 (VHT80): 20.55 dBm For Beamforming Mode: Band 2: 2TX: 802.11ac MCS0/Nss1 (VHT20): 21.72 dBm ; 802.11ac MCS0/Nss1 (VHT40): 19.73 dBm ; 802.11ac MCS0/Nss1 (VHT80): 11.29 dBm Band 3: 2TX: 802.11ac MCS0/Nss1 (VHT20): 21.78 dBm ; 802.11ac MCS0/Nss1 (VHT40): 20.90 dBm ; 802.11ac MCS0/Nss1 (VHT80): 19.41 dBm For STBC Mode: Band 2: 2TX: 802.11ac MCS0/Nss1 (VHT20): 22.63 dBm ; 802.11ac MCS0/Nss1 (VHT40): 20.91 dBm ; 802.11ac MCS0/Nss1 (VHT80): 15.12 dBm Band 3: 2TX: 802.11ac MCS0/Nss1 (VHT20): 22.74 dBm ; 802.11ac MCS0/Nss1 (VHT40): 20.84 dBm ; 802.11ac MCS0/Nss1 (VHT80): 21.14 dBm
Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3

IEEE 802.11a

Items	Description
Product Type	WLAN (1TX,2TX/1RX,2RX)
Radio Type	Intentional Transceiver
Power Type	From power adapter or PoE
Modulation	OFDM for IEEE 802.11a
Data Modulation	OFDM (BPSK / QPSK / 16QAM / 64QAM)
Data Rate (Mbps)	OFDM (6/9/12/18/24/36/48/54)
Frequency Range	5250 ~ 5350MHz / 5470 ~ 5725MHz
Channel Number	16
Maximum Conducted Output Power	**Mode 1 (Ant. 2 Dipole antenna / 5dBi)** For Non-Beamforming Mode: For 1TX: Band 2: 18.29 dBm ; Band 3: 20.45 dBm For 2TX: Band 2: 21.01 dBm ; Band 3: 22.47 dBm For Beamforming Mode: For 2TX: Band 2: 20.72 dBm ; Band 3: 21.91 dBm **Mode 2 (Ant. 4 Panel antenna / 5.1dBi)** For Non-Beamforming Mode: For 1TX: Band 2: 19.69 dBm ; Band 3: 19.56 dBm For 2TX: Band 2: 22.00 dBm ; Band 3: 21.93 dBm For Beamforming Mode: For 2TX: Band 2: 21.76 dBm ; Band 3: 21.82 dBm
Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3

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

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

Antenna and Band width

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

IEEE 11n/ac Spec.

Protocol	Number of Transmit Chains (NTX)	Data Rate / MCS
802.11n (HT20)	1,2	MCS 0-15
802.11n (HT40)	1,2	MCS 0-15
802.11ac (VHT20)	1,2	MCS 0-9/Nss1-2
802.11ac (VHT40)	1,2	MCS 0-9/Nss1-2
802.11ac (VHT80)	1,2	MCS 0-9/Nss1-2

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 supports VHT20, VHT40 in 2.4GHz and supports VHT20, VHT40, VHT80 in 5GHz.

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

3.2. Accessories

Power	Brand	Model	Rating
Adapter	Leader	NU60-H120500-13	INPUT: 100-240V ~ 50/60Hz, 1.4A OUTPUT: 12.0V, 5.0A

3.3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Antenna Gain (dBi)		Cable Loss (dBi)		True Gain (dBi)	
					2.4G	5G	2.4G	5G	2.4G	5G
1	MOTOROLA	ML-2452-APA2-01	Dipole	RP-SMA Male	3.17	4.85	-	-	3.17	4.85
2	MOTOROLA	ML-2452-HPA5-036	Dipole	RP-SMA Male	3	5	-	-	3	5
3	MOTOROLA	ML-2452-APAG2A1-01	Dipole	RP-SMA Male	2.7	1.7	-	-	2.7	1.7
4	MOTOROLA	ML-2452-PNA5-01R	Panel	N-Type Male	5.5	6	0.7	0.9	4.8	5.1

Note: Ant. 1~Ant. 4 are all have 4 same antennas for each. The EUT has two types of antenna. Only the highest gain antenna was selected from each different type of antenna to test and record in this report. Antenna 2 and 4 were selected to perform the test and recorded in this report.

<For 2.4GHz Band>

For IEEE 802.11b/g/n/ac mode (1TX,2TX/1RX,2RX):

The EUT can support 1TX, 2TX and 1RX, 2RX functions.

For 1TX (Ant. 1)

Both Chain 1 and Chain 2 support transmit and receive functions, but only one of them will be used at one time.

After evaluating, Chain 2 has been evaluated to be the worst case, so it's selected to record in this test report.

For 1TX (Ant. 4)

Both Chain 1 and Chain 2 support transmit and receive functions, but only one of them will be used at one time.

After evaluating, Chain 1 has been evaluated to be the worst case, so it's selected to record in this test report.

For 2TX

Chain 1 and Chain 2 could transmit/receive simultaneously.

<For 5GHz Band>

For IEEE 802.11a/n/ac mode (1TX,2TX /1RX,2RX):

The EUT can support 1TX, 2TX and 1RX, 2RX functions.

For 1TX

Both Chain 1 and Chain 2 support transmit and receive functions, but only one of them will be used at one time.

After evaluating, Chain 2 has been evaluated to be the worst case, so it's selected to record in this test report.

For 2TX

Chain 1 and Chain 2 could transmit/receive simultaneously.


Chain 1 (connects to Ant. 1~Ant. 4)
Chain 2 (connects to Ant. 1~Ant. 4)

3.4. Table for Carrier Frequencies

There are three bandwidth systems.

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

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

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

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
5250~5350 MHz Band 2	52	5260 MHz	60	5300 MHz
	54	5270 MHz	62	5310 MHz
	56	5280 MHz	64	5320 MHz
	58	5290 MHz	-	-
5470~5725 MHz Band 3	100	5500 MHz	124	5620 MHz
	102	5510 MHz	126	5630 MHz
	104	5520 MHz	128	5640 MHz
	106	5530 MHz	132	5660 MHz
	108	5540 MHz	134	5670 MHz
	110	5550 MHz	136	5680 MHz
	112	5560 MHz	138	5690 MHz
	116	5580 MHz	140	5700 MHz
	118	5590 MHz	142	5710 MHz
	120	5600 MHz	144	5720 MHz
	122	5610 MHz	-	-

3.5. Table for Test Modes

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

Test Items	Mode		Data Rate	Channel	Chain
AC Power Conducted Emission	Normal Link		-	-	-
Max. Conducted Output Power	Non-beamforming Mode				
	11n HT20	Band 2-3	MCS0	52/60/64/100/116/140/144	2 1+2
	11n HT40	Band 2-3	MCS0	54/62/102/110/134/142	2 1+2
	11ac VHT20	Band 2-3	MCS0/Nss1	52/60/64/100/116/140/144	2 1+2
	11ac VHT40	Band 2-3	MCS0/Nss1	54/62/102/110/134/142	2 1+2
	11ac VHT80	Band 2-3	MCS0/Nss1	58/106/122/138	2 1+2
	11a/BPSK	Band 2-3	6Mbps	52/60/64/100/116/140/144	2 1+2
	beamforming Mode				
	11ac VHT20	Band 2-3	MCS0/Nss1	52/60/64/100/116/140/144	1+2
	11ac VHT40	Band 2-3	MCS0/Nss1	54/62/102/110/134/142	1+2
	11ac VHT80	Band 2-3	MCS0/Nss1	58/106/122/138	1+2
	11a/BPSK	Band 2-3	6Mbps	52/60/64/100/116/140/144	1+2
	STBC Mode				
	11ac VHT20	Band 2-3	MCS0/Nss1	52/60/64/100/116/140/144	1+2
	11ac VHT40	Band 2-3	MCS0/Nss1	54/62/102/110/134/142	1+2
	11ac VHT80	Band 2-3	MCS0/Nss1	58/106/122/138	1+2

Power Spectral Density	Non-beamforming Mode				
	11ac VHT20	Band 2-3	MCS0/Nss1	52/60/64/100/116/140/144	2 1+2
	11ac VHT40	Band 2-3	MCS0/Nss1	54/62/102/110/134/142	2 1+2
	11ac VHT80	Band 2-3	MCS0/Nss1	58/106/122/138	2 1+2
	beamforming Mode				
	11ac VHT20	Band 2-3	MCS0/Nss1	52/60/64/100/116/140/144	1+2
	11ac VHT40	Band 2-3	MCS0/Nss1	54/62/102/110/134/142	1+2
	11ac VHT80	Band 2-3	MCS0/Nss1	58/106/122/138	1+2
	STBC Mode				
	11ac VHT20	Band 2-3	MCS0/Nss1	52/60/64/100/116/140/144	1+2
	11ac VHT40	Band 2-3	MCS0/Nss1	54/62/102/110/134/142	1+2
	11ac VHT80	Band 2-3	MCS0/Nss1	58/106/122/138	1+2
26dB Spectrum Bandwidth 99% Occupied Bandwidth Measurement	Non-beamforming Mode				
	11ac VHT20	Band 2-3	MCS0/Nss1	52/60/64/100/116/140/144	2
	11ac VHT40	Band 2-3	MCS0/Nss1	54/62/102/110/134/142	2
	11ac VHT80	Band 2-3	MCS0/Nss1	58/106/122/138	2
	STBC Mode				
	11ac VHT20	Band 2-3	MCS0/Nss1	52/60/64/100/116/140/144	1+2
	11ac VHT40	Band 2-3	MCS0/Nss1	54/62/102/110/134/142	1+2
	11ac VHT80	Band 2-3	MCS0/Nss1	58/106/122/138	1+2
Radiated Emission Below 1GHz	Normal Link		-	-	-
Radiated Emission Above 1GHz	Non-beamforming Mode				
	11ac VHT20	Band 2-3	MCS0/Nss1	52/60/64/100/116/140/144	2 1+2
	11ac VHT40	Band 2-3	MCS0/Nss1	54/62/102/110/134/142	2 1+2

	11ac VHT80	Band 2-3	MCS0/Nss1	58/106/122/138	2 1+2
	beamforming Mode				
	11ac VHT20	Band 2-3	MCS0/Nss1	52/60/64/100/ 116/140/144	2 1+2
	11ac VHT40	Band 2-3	MCS0/Nss1	54/62/102/110/ 134/142	2 1+2
	11ac VHT80	Band 2-3	MCS0/Nss1	58/106/122/138	2 1+2
	STBC Mode				
	11ac VHT20	Band 2-3	MCS0/Nss1	52/60/64/100/ 116/140/144	2 1+2
	11ac VHT40	Band 2-3	MCS0/Nss1	54/62/102/110/ 134/142	2 1+2
	11ac VHT80	Band 2-3	MCS0/Nss1	58/106/122/138	2 1+2
Band Edge Emission	Non-beamforming Mode				
	11ac VHT20	Band 2-3	MCS0/Nss1	52/60/64/100/ 116/140/144	2 1+2
	11ac VHT40	Band 2-3	MCS0/Nss1	54/62/102/110/ 134/142	2 1+2
	11ac VHT80	Band 2-3	MCS0/Nss1	58/106/122/138	2 1+2
	beamforming Mode				
	11ac VHT20	Band 2-3	MCS0/Nss1	52/60/64/100/ 116/140/144	1+2
	11ac VHT40	Band 2-3	MCS0/Nss1	54/62/102/110/ 134/142	1+2
	11ac VHT80	Band 2-3	MCS0/Nss1	58/106/122/138	1+2
	STBC Mode				
	11ac VHT20	Band 2-3	MCS0/Nss1	52/60/64/100/ 116/140/144	1+2
	11ac VHT40	Band 2-3	MCS0/Nss1	54/62/102/110/ 134/142	1+2
	11ac VHT80	Band 2-3	MCS0/Nss1	58/106/122/138	1+2
Frequency Stability	Un-modulation		-	60/100	1+2

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

The following test modes were performed for all tests:

For Conducted Emission test:

Test Mode 1: Normal Link - EUT + Ant. 4 + Adapter

Test Mode 2: Normal Link - EUT + Ant. 4 + PoE

Mode 1 performed as worst case, it was recorded in this report.

For Radiated Emission below 1GHz test:

Test Mode 1: Normal Link - EUT standing + Ant. 4 + Adapter

Test Mode 2: Normal Link - EUT laying + Ant. 4 + Adapter

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

Test Mode 3: Normal Link - EUT standing + Ant. 4 + PoE

Mode 1 performed as worst case, it was recorded in this report.

For Radiated Emission above 1GHz test:

There are two test modes, one is EUT standing, and the other is EUT laying. After evaluating, EUT standing has been evaluated to be the worst case. Consequently, measurements for Radiated Emission above 1GHz test will follow this same test mode.

Test Mode 1: CTX - EUT standing + Ant. 2

Test Mode 2: CTX - EUT standing + Ant. 4

For other tests:

Test Mode 1: CTX - Ant. 2

Test Mode 2: CTX - Ant. 4

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

The EUT could be applied with 2.4GHz WLAN function and 5GHz WLAN function; therefore Co-location Maximum Permissible Exposure (Please refer to FA441804-08) and Radiated Emission Co-location (please refer to Appendix B) tests are added for simultaneously transmit between 2.4GHz WLAN function and 5GHz WLAN function.

3.6. Table for Testing Locations

Test Site Location					
Address:	No.8, Lane 724, Bo-ai St., Jhubei City, Hsinchu County 302, Taiwan, R.O.C.				
TEL:	886-3-656-9065				
FAX:	886-3-656-9085				
Test Site No.	**Site Category**	**Location**	**FCC Reg. No.**	**IC File No.**	**VCCI Reg. No**
03CH01-CB	SAC	Hsin Chu	262045	IC 4086D	-
CO01-CB	Conduction	Hsin Chu	262045	IC 4086D	-
TH01-CB	OVEN Room	Hsin Chu	-	-	-

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

3.7. Table for Class II Change

This product is an extension of original one reported under Sporton project number: FR441804-04AB

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

Description	Performance Checking
Add Band 2 and Band 3	All Item test

3.8. Table for Supporting Units

For Test Site No: CO01-CB

Support Unit	Brand	Model	FCC ID
Notebook*3	DELL	E6430	DoC

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

Support Unit	Brand	Model	FCC ID
Notebook	DELL	M1330	E2K4965AGNM
Notebook	DELL	M1340	E2K4965AGNM
Notebook	DELL	E6430	DoC

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

Support Unit	Brand	Model	FCC ID
Notebook	DELL	M1330	E2K4965AGNM

For Test Site No: TH01-CB

Support Unit	Brand	Model	FCC ID
Notebook	DELL	E6220	DoC

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>

Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Power Parameters of IEEE 802.11n MCS0 HT20

Test Software Version	MTOOL_2.0.1.0						
Frequency	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz	5720 MHz
MCS0 HT20	79	80	76	72	82	64	87

Power Parameters of IEEE 802.11n MCS0 HT40

Test Software Version	MTOOL_2.0.1.0					
Frequency	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz	5710 MHz
MCS0 HT40	76	59	62	76	74	76

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20

Test Software Version	MTOOL_2.0.1.0						
Frequency	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz	5720 MHz
MCS0/Nss1 VHT20	79	80	76	72	82	64	87

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40

Test Software Version	MTOOL_2.0.1.0					
Frequency	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz	5710 MHz
MCS0/Nss1 VHT40	76	59	62	76	74	76

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80

Test Software Version	MTOOL_2.0.1.0			
Frequency	5290 MHz	5530 MHz	5610 MHz	5690 MHz
MCS0/Nss1 VHT80	60	71	81	85

Power Parameters of IEEE 802.11a

Test Software Version	MTOOL_2.0.1.0						
Frequency	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz	5720 MHz
802.11a	79	80	76	72	82	64	87

Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Power Parameters of IEEE 802.11n MCS0 HT20

Test Software Version	DOS						
Frequency	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz	5720 MHz
MCS0 HT20	80	80	76	72	84	64	84

Power Parameters of IEEE 802.11n MCS0 HT40

Test Software Version	DOS					
Frequency	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz	5710 MHz
MCS0 HT40	80	57	62	80	73	80

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20

Test Software Version	DOS						
Frequency	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz	5720 MHz
MCS0/Nss1 VHT20	80	80	76	72	84	64	84

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40

Test Software Version	DOS					
Frequency	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz	5710 MHz
MCS0/Nss1 VHT40	80	57	62	80	73	80

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80

Test Software Version	DOS			
Frequency	5290 MHz	5530 MHz	5610 MHz	5690 MHz
MCS0/Nss1 VHT80	55	60	74	85

Power Parameters of IEEE 802.11a

Test Software Version	DOS						
Frequency	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz	5720 MHz
802.11a	80	80	76	72	84	64	84

Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Power Parameters of IEEE 802.11n MCS0 HT20

Test Software Version	MTOOL_2.0.1.0						
Frequency	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz	5720 MHz
MCS0 HT20	84	82	76	73	81	71	84

Power Parameters of IEEE 802.11n MCS0 HT40

Test Software Version	MTOOL_2.0.1.0					
Frequency	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz	5710 MHz
MCS0 HT40	80	65	68	80	74	80

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20

Test Software Version	MTOOL_2.0.1.0						
Frequency	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz	5720 MHz
MCS0/Nss1 VHT20	84	82	76	73	81	71	84

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40

Test Software Version	MTOOL_2.0.1.0					
Frequency	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz	5710 MHz
MCS0/Nss1 VHT40	80	65	68	80	74	80

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80

Test Software Version	MTOOL_2.0.1.0			
Frequency	5290 MHz	5530 MHz	5610 MHz	5690 MHz
MCS0/Nss1 VHT80	63	70	82	84

Power Parameters of IEEE 802.11a

Test Software Version	MTOOL_2.0.1.0						
Frequency	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz	5720 MHz
802.11a	84	82	76	73	81	71	84

Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Power Parameters of IEEE 802.11n MCS0 HT20

Test Software Version	DOS						
Frequency	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz	5720 MHz
MCS0 HT20	84	84	74	72	84	70	84

Power Parameters of IEEE 802.11n MCS0 HT40

Test Software Version	DOS					
Frequency	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz	5710 MHz
MCS0 HT40	82	59	65	78	73	82

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20

Test Software Version	DOS						
Frequency	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz	5720 MHz
MCS0/Nss1 VHT20	84	84	74	72	84	70	84

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40

Test Software Version	DOS					
Frequency	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz	5710 MHz
MCS0/Nss1 VHT40	82	59	65	78	73	82

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80

Test Software Version	DOS			
Frequency	5290 MHz	5530 MHz	5610 MHz	5690 MHz
MCS0/Nss1 VHT80	53	64	81	83

Power Parameters of IEEE 802.11a

Test Software Version	DOS						
Frequency	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz	5720 MHz
802.11a	84	84	74	72	84	70	84

<For Beamforming Mode>

Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20

Test Software Version	DOS						
Frequency	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz	5720 MHz
MCS0/Nss1 VHT20	80	74	70	72	64	64	82

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40

Test Software Version	DOS					
Frequency	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz	5710 MHz
MCS0/Nss1 VHT40	79	54	56	72	69	80

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80

Test Software Version	DOS			
Frequency	5290 MHz	5530 MHz	5610 MHz	5690 MHz
MCS0/Nss1 VHT80	48	49	68	81

Power Parameters of IEEE 802.11a

Test Software Version	DOS						
Frequency	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz	5720 MHz
802.11a	80	74	70	72	64	64	82

Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20

Test Software Version	DOS						
Frequency	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz	5720 MHz
MCS0/Nss1 VHT20	83	74	68	68	82	65	84

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40

Test Software Version	DOS					
Frequency	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz	5710 MHz
MCS0/Nss1 VHT40	78	53	58	70	70	82

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80

Test Software Version	DOS			
Frequency	5290 MHz	5530 MHz	5610 MHz	5690 MHz
MCS0/Nss1 VHT80	43	54	76	80

Power Parameters of IEEE 802.11a

Test Software Version	DOS						
Frequency	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz	5720 MHz
802.11a	83	74	68	68	82	65	84

<For STBC Mode>

Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20

Test Software Version	DOS						
Frequency	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz	5720 MHz
MCS0/Nss1 VHT20	84	85	76	72	77	73	88

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40

Test Software Version	DOS					
Frequency	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz	5710 MHz
MCS0/Nss1 VHT40	80	59	62	80	74	80

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80

Test Software Version	DOS			
Frequency	5290 MHz	5530 MHz	5610 MHz	5690 MHz
MCS0/Nss1 VHT80	58	60	77	85

Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20

Test Software Version	DOS						
Frequency	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz	5720 MHz
MCS0/Nss1 VHT20	85	85	74	76	84	65	87

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40

Test Software Version	DOS					
Frequency	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz	5710 MHz
MCS0/Nss1 VHT40	82	61	69	82	75	82

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80

Test Software Version	DOS			
Frequency	5290 MHz	5530 MHz	5610 MHz	5690 MHz
MCS0/Nss1 VHT80	60	65	82	84

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.

The measured result was added array gain 10*log(2)=3.01dBi as worse case in beamforming mode.

For Radiated Mode:

The EUT was programmed to be in continuously transmitting mode.

The measured result was added array gain 10*log(2)=3.01dBi as worse case in beamforming mode.

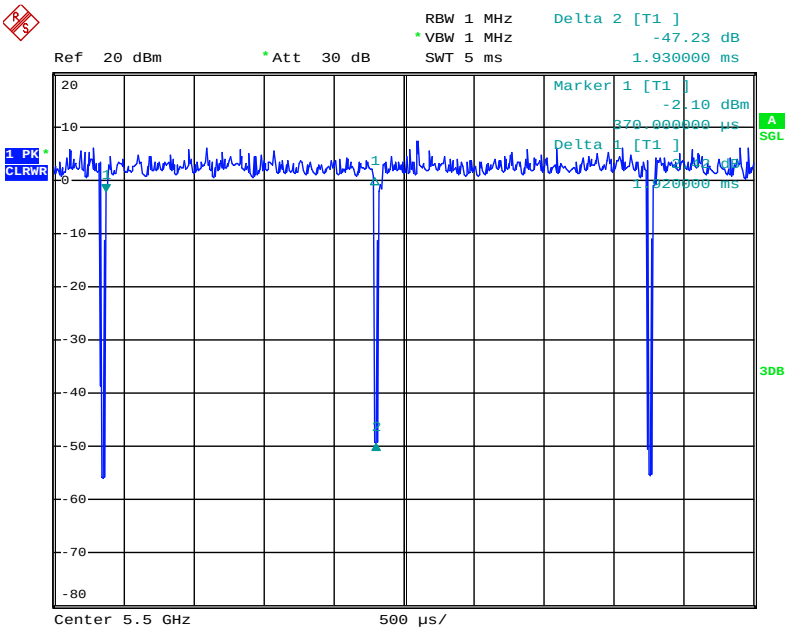
For STBC mode:

For Conducted Mode:

The EUT was programmed to be in continuously transmitting mode.

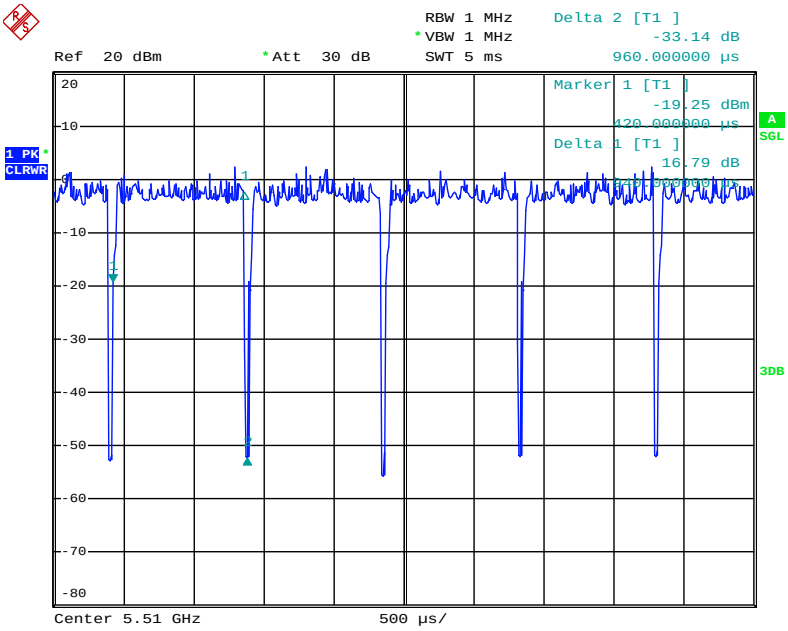
3.11. Duty Cycle

IEEE 802.11n MCS0 HT20



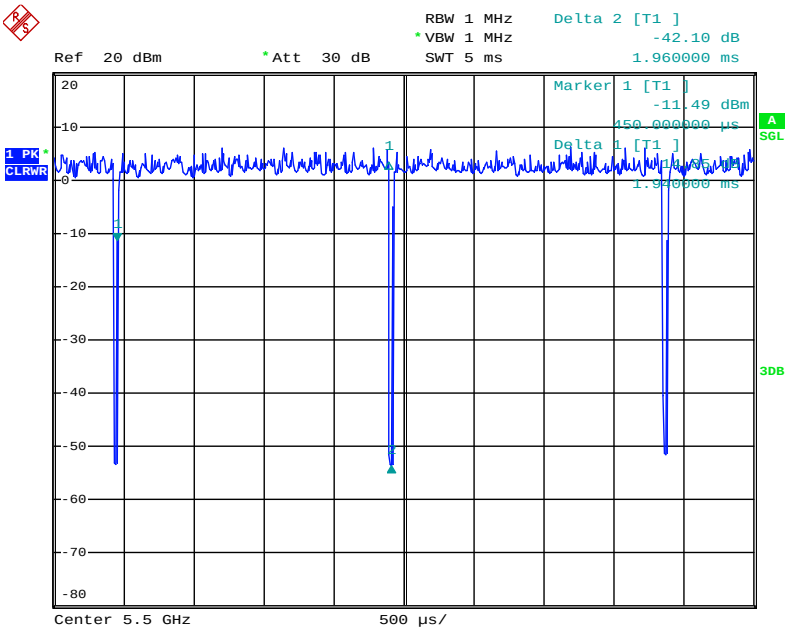
Date: 25.JUL.2014 14:41:40

IEEE 802.11n MCS0 HT40



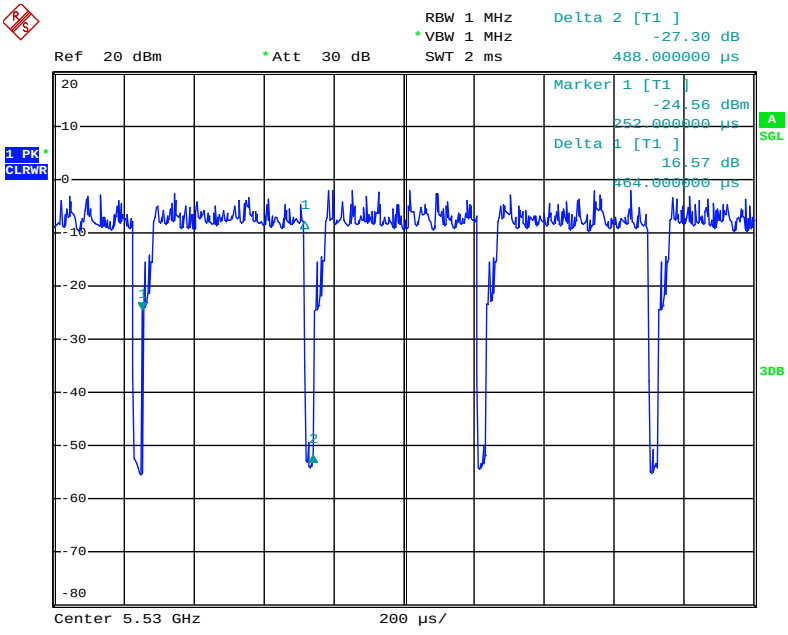
Date: 25.JUL.2014 14:50:05

IEEE 802.11ac MCS0/Nss1 VHT20



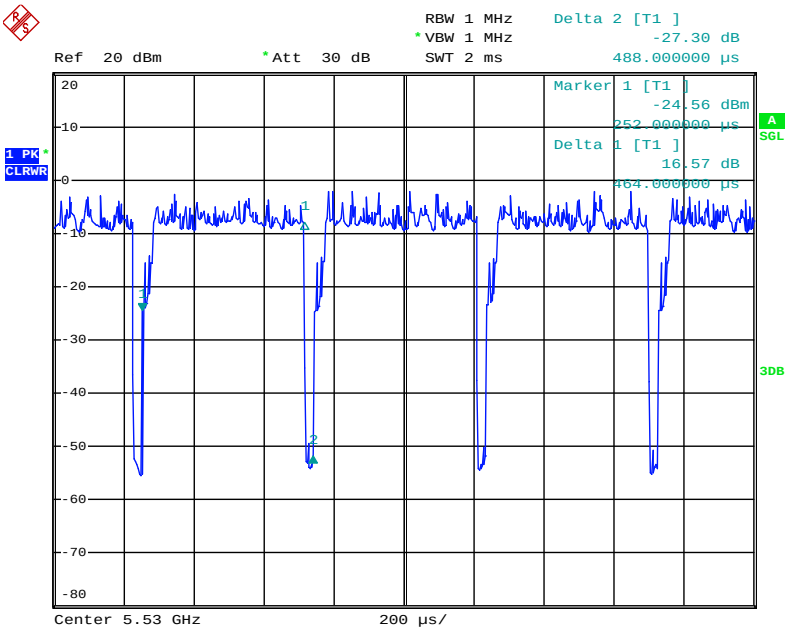
Date: 25.JUL.2014 14:44:29

IEEE 802.11ac MCS0/Nss1 VHT40



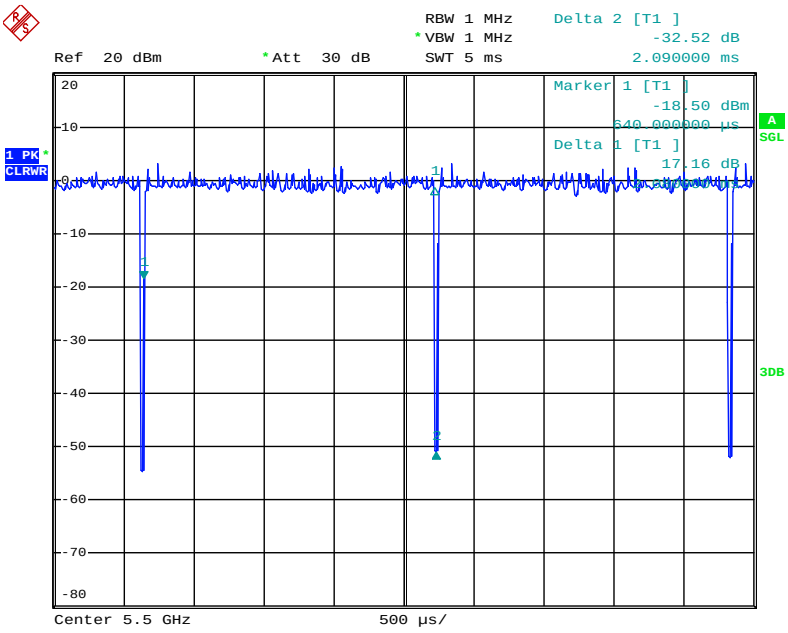
Date: 25.JUL.2014 14:51:33

IEEE 802.11ac MCS0/Nss1 VHT80



Date: 25.JUL.2014 14:51:33

IEEE 802.11a

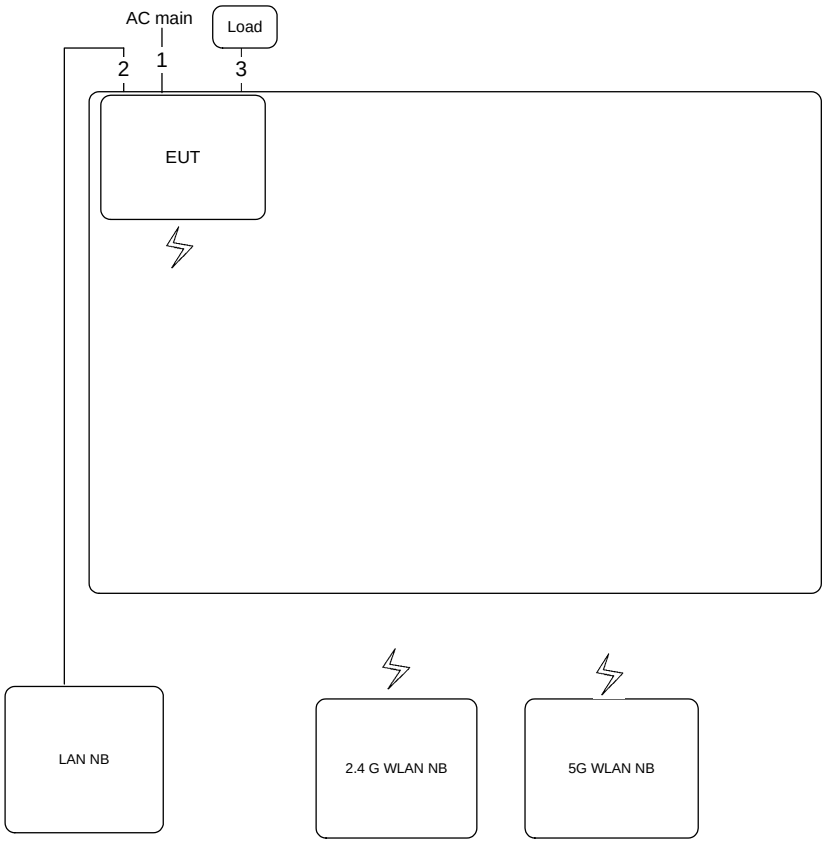


Date: 25.JUL.2014 14:38:26

3.12. Test Configurations

3.12.1. AC Power Line Conduction Emissions Test Configuration

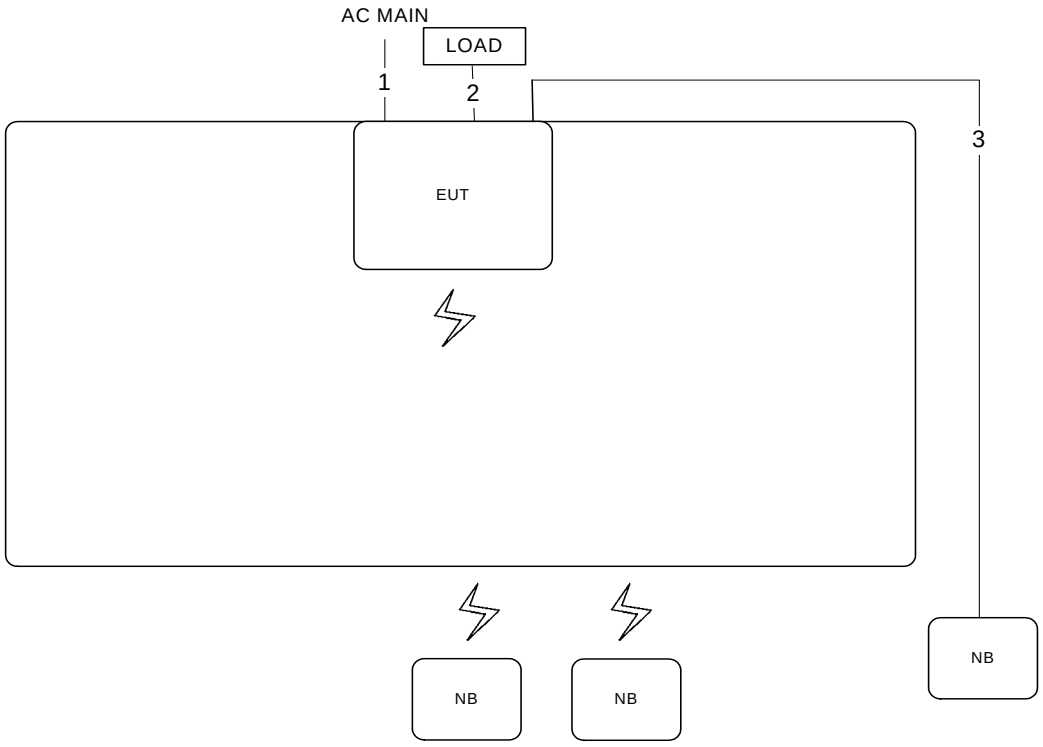
Test Mode: Mode 1



Item	Connection	Shield	Length(m)	Remark
1	AC power cable	No	3.3m	-
2	RJ-45 cable	No	10m	-
3	Console cable	No	1.5m	Load

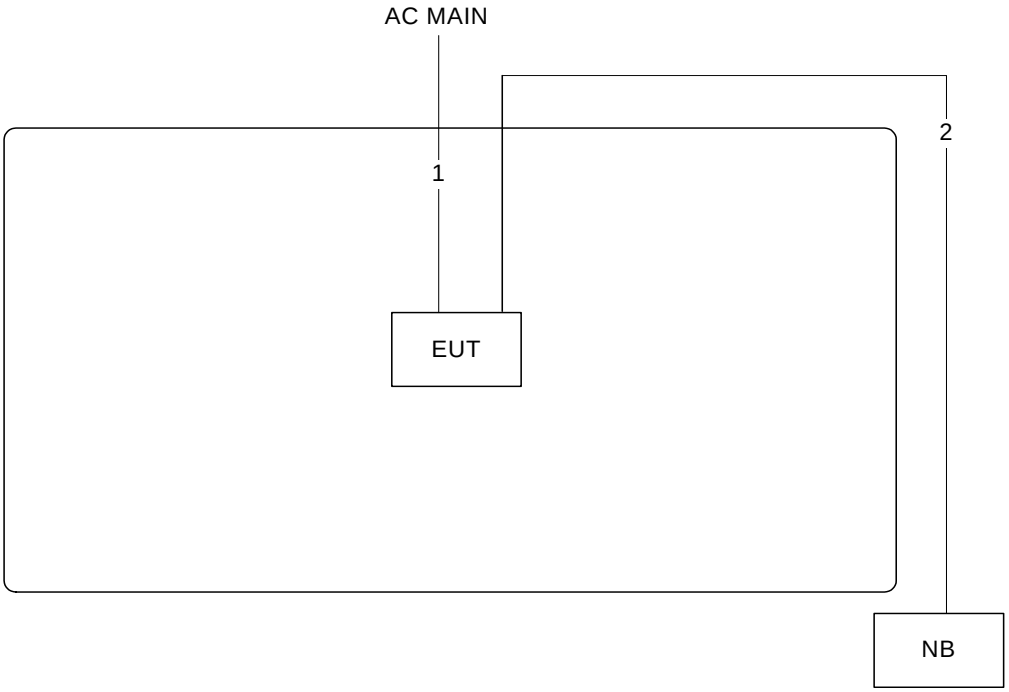
3.12.2. Radiation Emissions Test Configuration

Test Configuration: 30MHz ~1GHz / Test Mode: Mode 2



Item	Connection	Shield	Length(m)	Remark
1	AC power cable	No	3.3m	-
2	Console cable	No	1.5m	Load
3	RJ-45 cable	No	10m	-

Test Configuration: above 1GHz / Test Mode: Mode 1



Item	Connection	Shield	Length(m)
1	AC power cable	No	3.3m
2	RJ-45 cable	No	10m

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

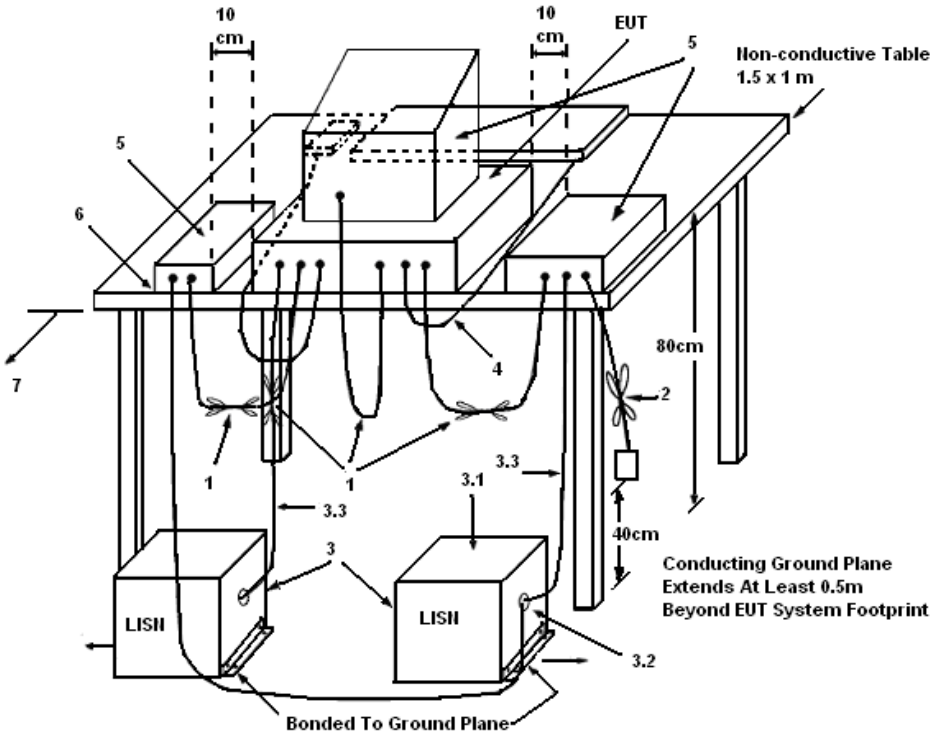
Please refer to section 5 of equipments list in this report. The following table is the setting of the receiver.

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

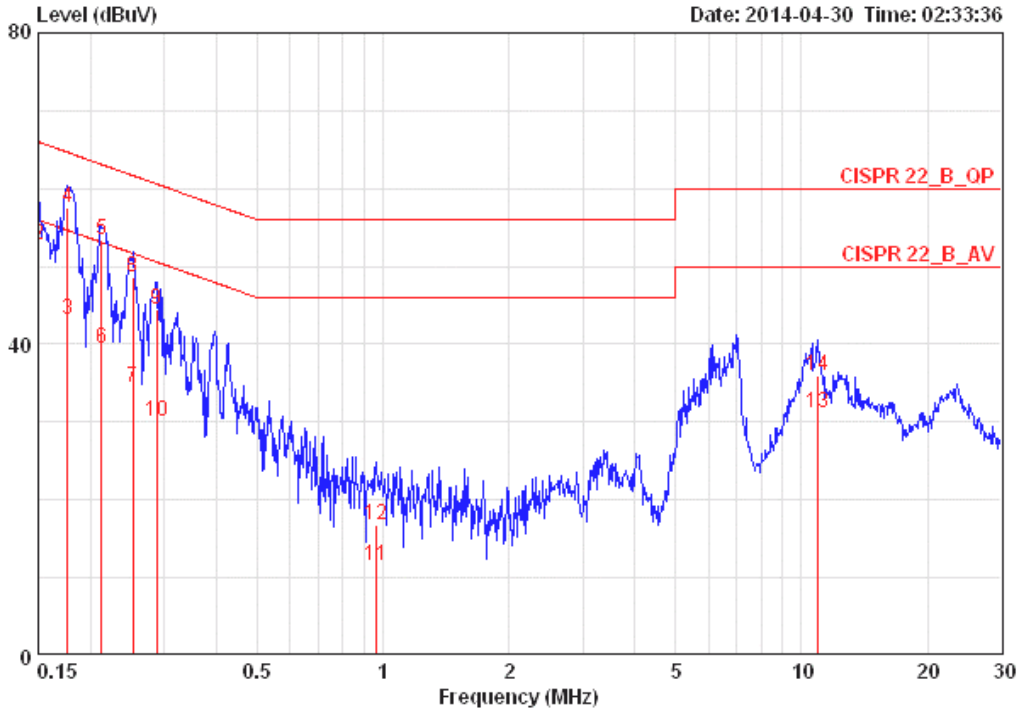
There is no deviation with the original standard.

4.1.6. EUT Operation during Test

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

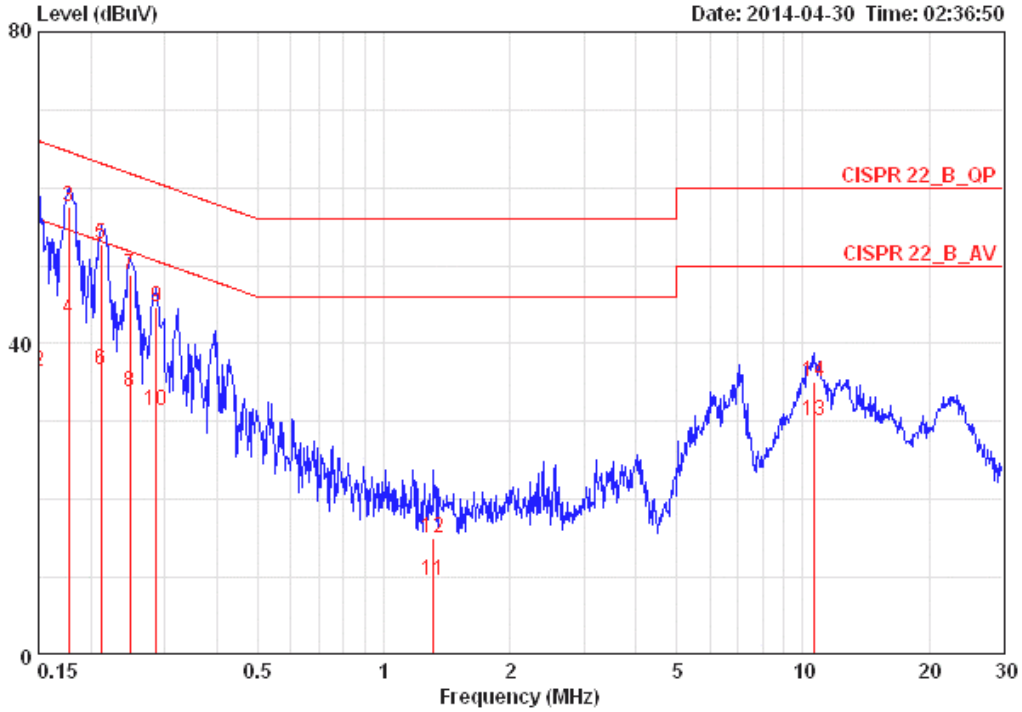
4.1.7. Results of AC Power Line Conducted Emissions Measurement

Temperature	24°C	Humidity	55%
Test Engineer	Parody Lin	Phase	Line
Configuration	Normal Link	Test Mode	Mode 1



	Freq	Level	Over Limit	Limit Line	LISN Factor	Read Level	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dB	dBuV	dB		
1	0.15000	36.79	-19.21	56.00	0.15	36.48	0.16	LINE	AVERAGE
2	0.15000	52.78	-13.22	66.00	0.15	52.47	0.16	LINE	QP
3	0.17584	43.07	-11.61	54.68	0.15	42.76	0.16	LINE	AVERAGE
4	0.17584	57.47	-7.21	64.68	0.15	57.16	0.16	LINE	QP
5	0.21279	53.36	-9.74	63.10	0.15	53.04	0.17	LINE	QP
6	0.21279	39.49	-13.61	53.10	0.15	39.17	0.17	LINE	AVERAGE
7	0.25211	34.47	-17.22	51.69	0.15	34.15	0.17	LINE	AVERAGE
8	0.25211	48.54	-13.15	61.69	0.15	48.22	0.17	LINE	QP
9	0.28782	44.36	-16.22	60.59	0.15	44.04	0.17	LINE	QP
10	0.28782	30.06	-20.52	50.59	0.15	29.74	0.17	LINE	AVERAGE
11	0.96328	11.45	-34.55	46.00	0.16	11.09	0.20	LINE	AVERAGE
12	0.96328	16.69	-39.31	56.00	0.16	16.33	0.20	LINE	QP
13	10.963	31.13	-18.87	50.00	0.39	30.35	0.39	LINE	AVERAGE
14	10.963	36.04	-23.96	60.00	0.39	35.26	0.39	LINE	QP

Temperature	24°C	Humidity	55%
Test Engineer	Parody Lin	Phase	Neutral
Configuration	Normal Link	Test Mode	Mode 1



	Freq	Level	Over Limit	Limit Line	LISN Factor	Read Level	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dB	dBuV	dB		
1	0.15000	52.72	-13.28	66.00	0.07	52.49	0.16	NEUTRAL	QP
2	0.15000	36.33	-19.67	56.00	0.07	36.10	0.16	NEUTRAL	AVERAGE
3	0.17678	57.53	-7.10	64.64	0.07	57.30	0.16	NEUTRAL	QP
4	0.17678	43.24	-11.39	54.64	0.07	43.01	0.16	NEUTRAL	AVERAGE
5	0.21167	52.65	-10.49	63.14	0.07	52.41	0.17	NEUTRAL	QP
6	0.21167	36.55	-16.59	53.14	0.07	36.31	0.17	NEUTRAL	AVERAGE
7	0.24814	48.90	-12.92	61.82	0.07	48.66	0.17	NEUTRAL	QP
8	0.24814	33.86	-17.96	51.82	0.07	33.62	0.17	NEUTRAL	AVERAGE
9	0.28630	44.58	-16.05	60.63	0.07	44.34	0.17	NEUTRAL	QP
10	0.28630	31.33	-19.30	50.63	0.07	31.09	0.17	NEUTRAL	AVERAGE
11	1.317	9.54	-36.46	46.00	0.09	9.23	0.22	NEUTRAL	AVERAGE
12	1.317	14.97	-41.03	56.00	0.09	14.66	0.22	NEUTRAL	QP
13	10.676	30.09	-19.91	50.00	0.28	29.42	0.39	NEUTRAL	AVERAGE
14	10.676	35.15	-24.85	60.00	0.28	34.48	0.39	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	≥ 3 x 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 4.5.4.

4.2.5. Test Deviation

There is no deviation with the original standard.

4.2.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

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

<For Non-Beamforming Mode>

Temperature	22℃	Humidity	55%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac
Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)		

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
52	5260 MHz	37.12	18.72
60	5300 MHz	37.28	18.88
64	5320 MHz	30.24	18.40
100	5500 MHz	21.60	18.24
116	5580 MHz	36.16	18.88
140	5700 MHz	20.64	18.08
144	5720 MHz	36.96	18.88

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
54	5270 MHz	65.28	36.80
62	5310 MHz	39.36	36.48
102	5510 MHz	39.36	36.48
110	5550 MHz	56.64	36.48
134	5670 MHz	40.64	36.48
142	5710 MHz	39.68	36.48

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
58	5290 MHz	82.56	76.80
106	5530 MHz	97.92	76.80
122	5610 MHz	149.76	77.44
138	5690 MHz	138.88	77.44

Temperature	22°C	Humidity	55%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11ac
Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)		

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
52	5260 MHz	38.56	18.88
60	5300 MHz	33.28	18.88
64	5320 MHz	24.80	18.24
100	5500 MHz	20.80	18.24
116	5580 MHz	35.36	18.72
140	5700 MHz	20.80	18.24
144	5720 MHz	38.56	18.72

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
54	5270 MHz	63.04	36.48
62	5310 MHz	39.68	36.48
102	5510 MHz	39.68	36.48
110	5550 MHz	69.44	36.80
134	5670 MHz	39.68	36.48
142	5710 MHz	57.60	36.80

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
58	5290 MHz	83.84	76.16
106	5530 MHz	81.92	76.16
122	5610 MHz	156.16	77.44
138	5690 MHz	97.28	76.80

<For STBC Mode>

Temperature	22℃	Humidity	55%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac
Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)		

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
52	5260 MHz	37.60	18.72
60	5300 MHz	35.52	18.88
64	5320 MHz	27.68	18.24
100	5500 MHz	20.64	18.08
116	5580 MHz	25.92	18.08
140	5700 MHz	20.64	17.92
144	5720 MHz	28.48	18.56

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
54	5270 MHz	71.04	36.80
62	5310 MHz	39.36	36.48
102	5510 MHz	39.04	36.48
110	5550 MHz	71.68	36.80
134	5670 MHz	39.04	36.48
142	5710 MHz	39.68	36.48

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
58	5290 MHz	82.56	76.16
106	5530 MHz	81.92	76.80
122	5610 MHz	85.76	76.80
138	5690 MHz	118.40	77.44

Temperature	22°C	Humidity	55%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac
Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)		

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
52	5260 MHz	34.40	18.72
60	5300 MHz	36.80	18.72
64	5320 MHz	22.24	18.24
100	5500 MHz	20.80	18.08
116	5580 MHz	36.48	18.72
140	5700 MHz	20.80	17.92
144	5720 MHz	34.40	18.72

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
54	5270 MHz	69.76	36.48
62	5310 MHz	38.72	36.48
102	5510 MHz	39.04	36.48
110	5550 MHz	75.84	36.80
134	5670 MHz	39.04	36.48
142	5710 MHz	53.44	36.48

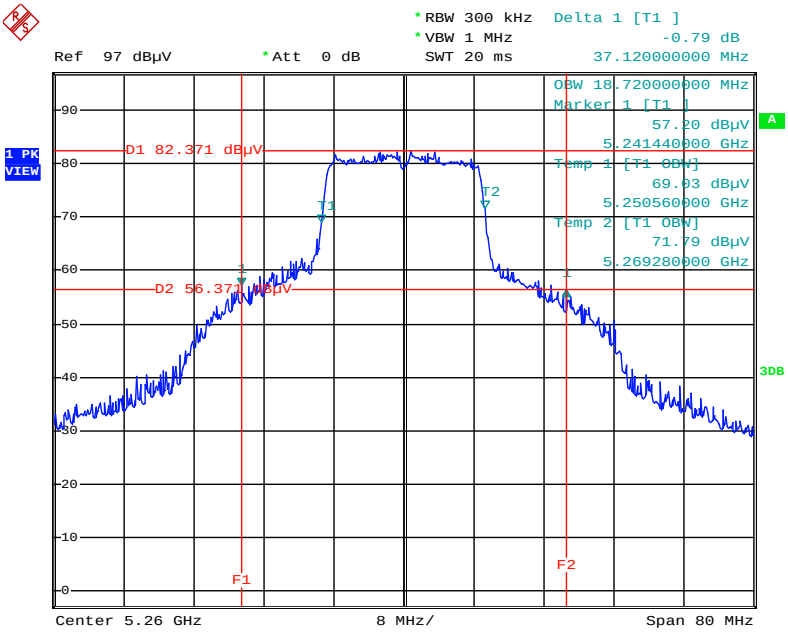
Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
58	5290 MHz	82.56	76.16
106	5530 MHz	82.56	76.80
122	5610 MHz	128.64	76.80
138	5690 MHz	129.28	76.80

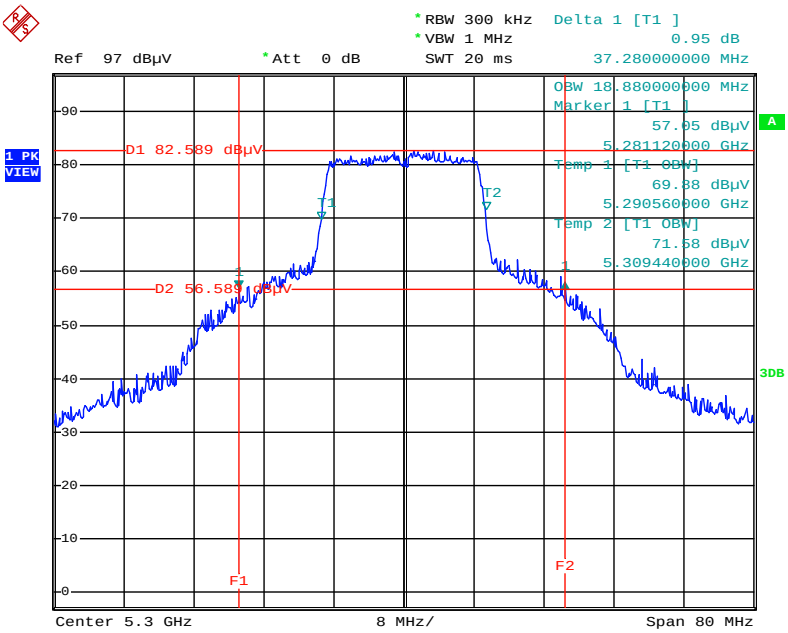
<For Non-Beamforming Mode>

Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

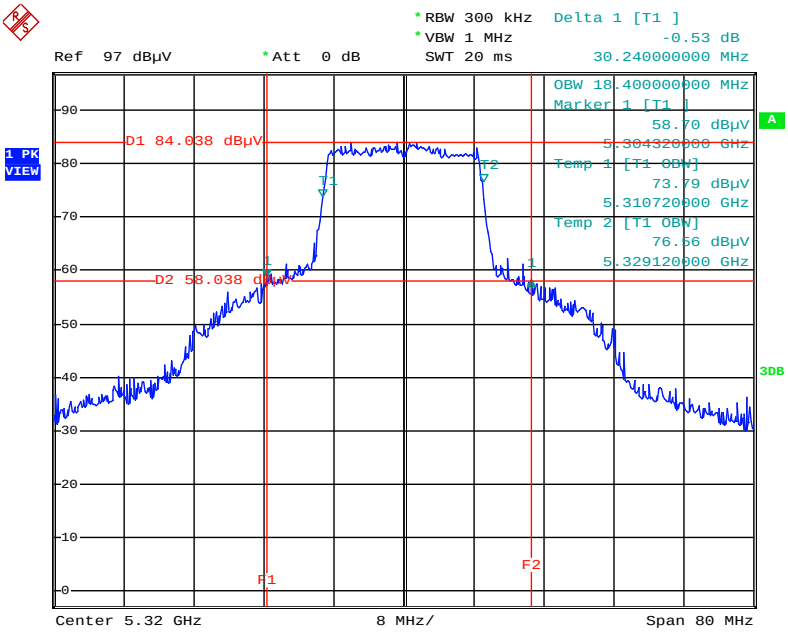
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2 / 5260 MHz



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

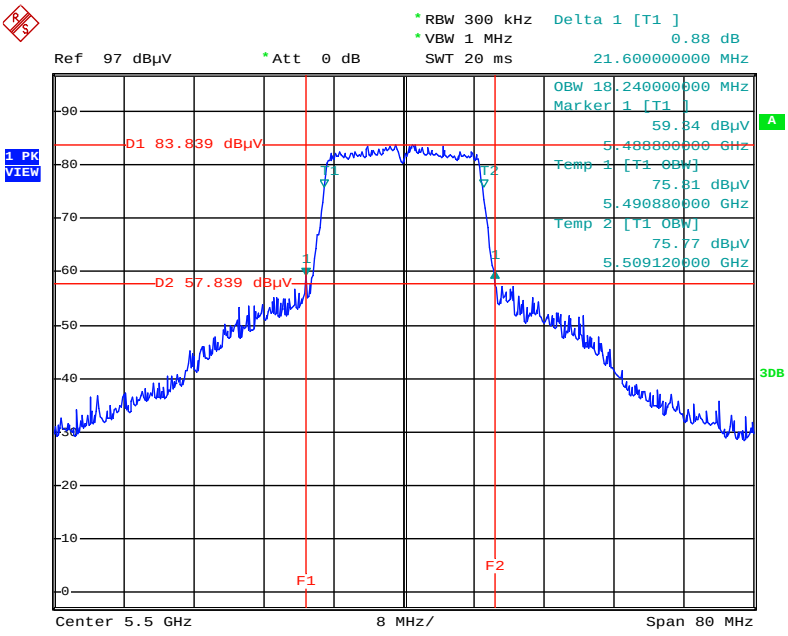


26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2 / 5320 MHz



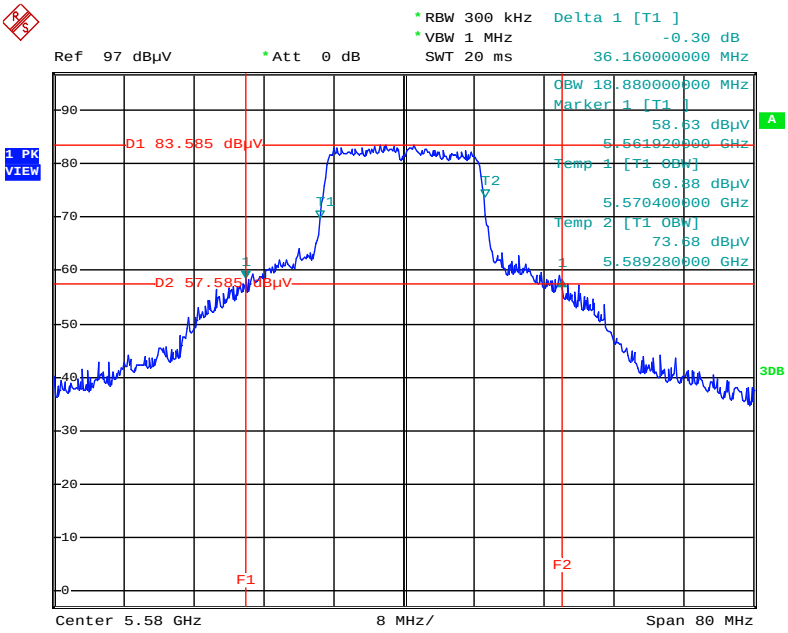
Date: 1.JUL.2014 14:09:19

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



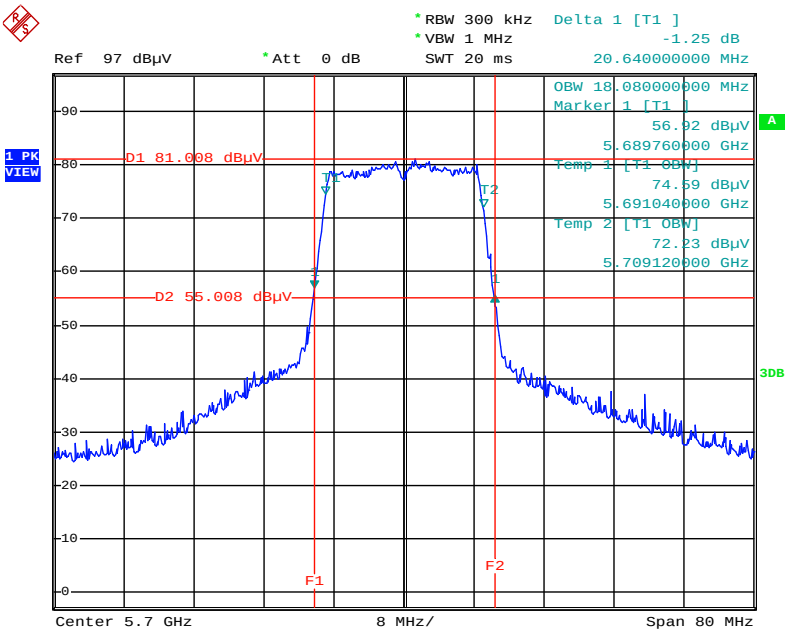
Date: 1.JUL.2014 14:09:55

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



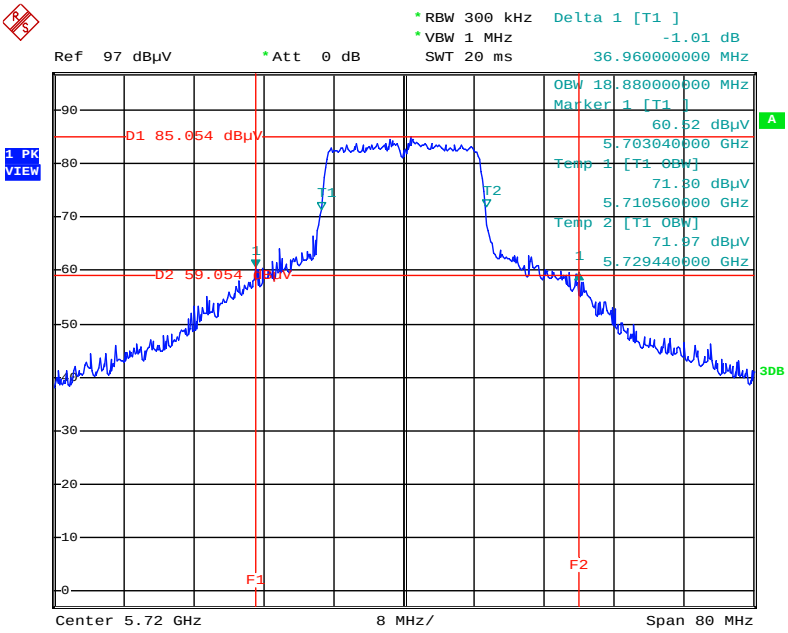
Date: 14.AUG.2014 21:05:36

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



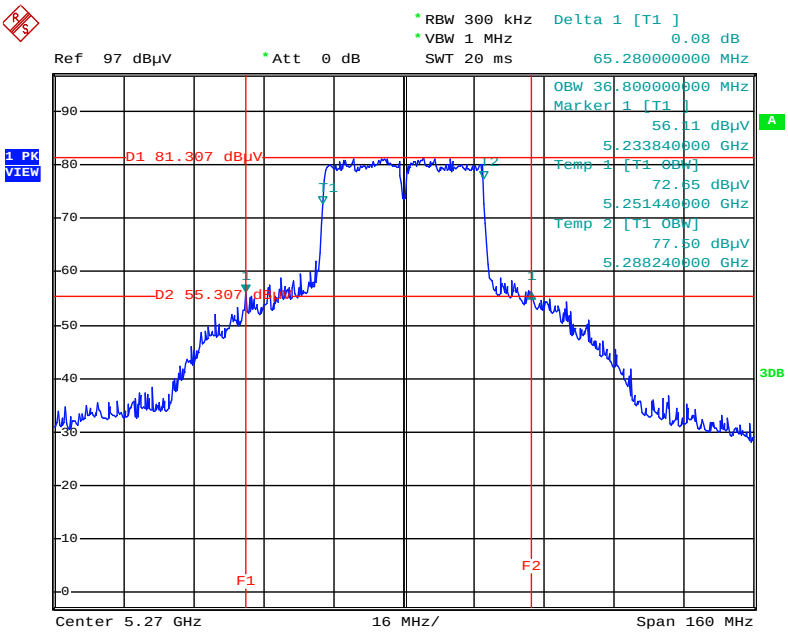
Date: 1.JUL.2014 14:11:02

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



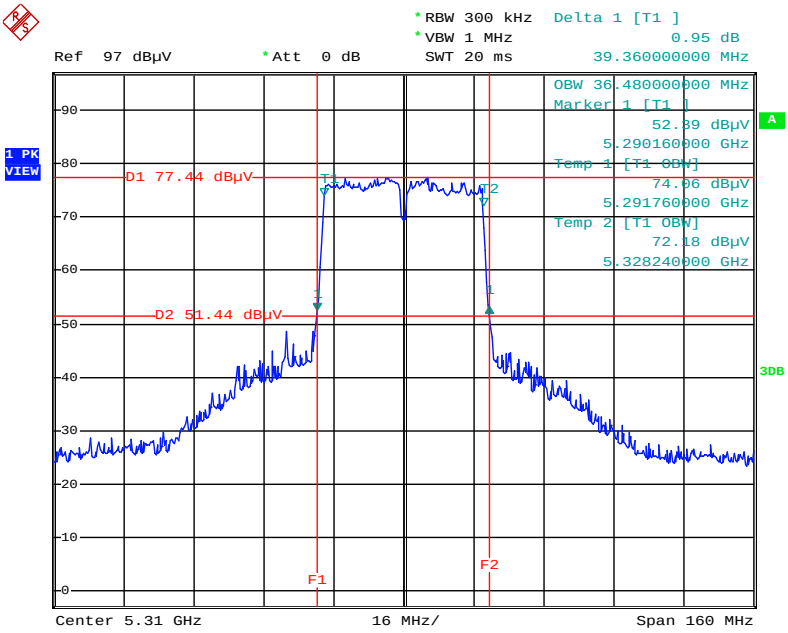
Date: 14.AUG.2014 21:06:55

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



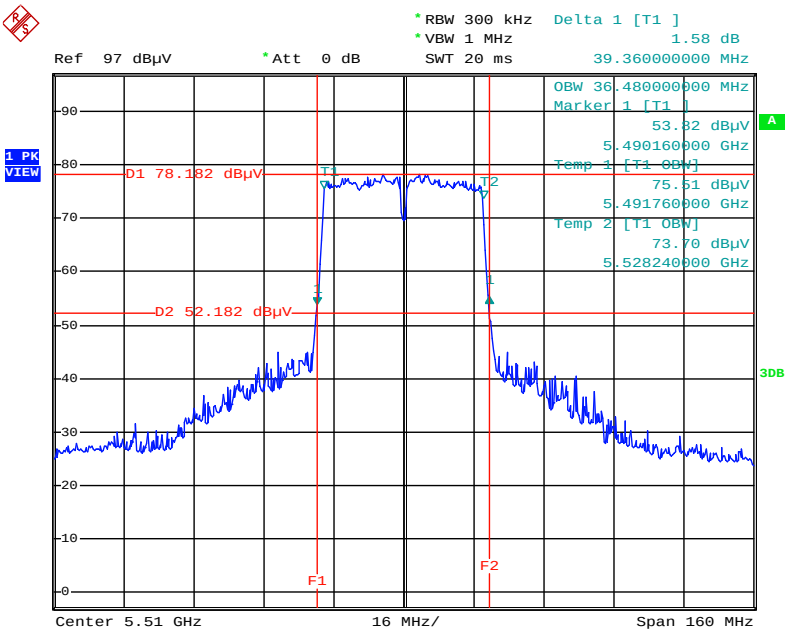
Date: 25.JUL.2014 08:42:25

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



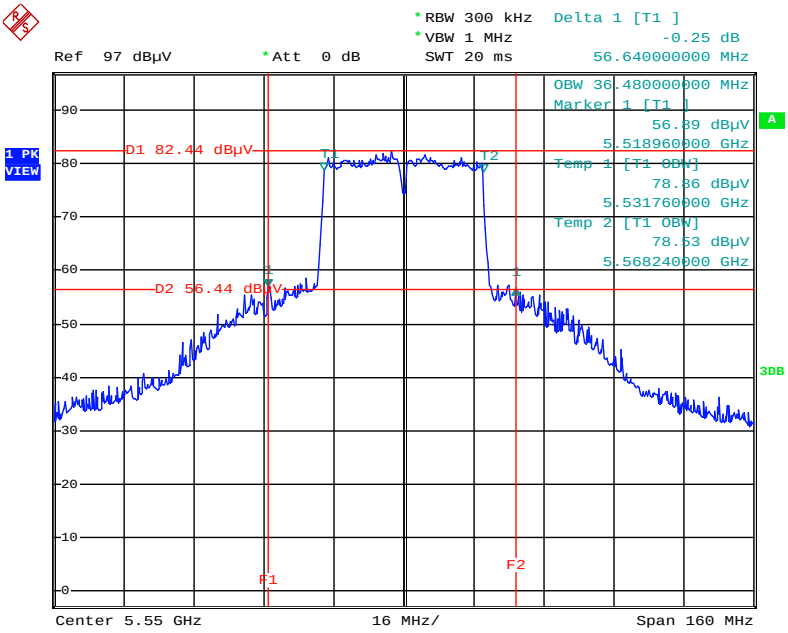
Date: 1.JUL.2014 14:13:02

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



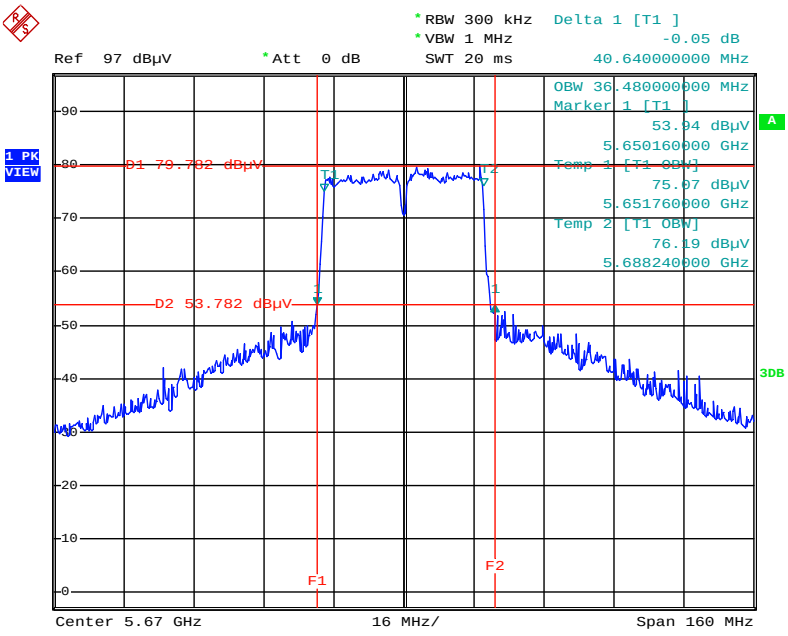
Date: 1.JUL.2014 14:13:39

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



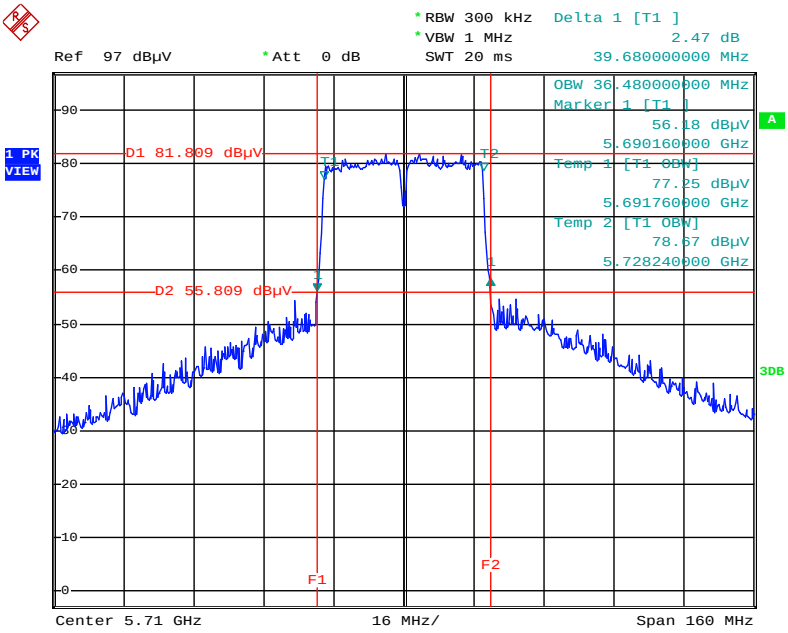
Date: 25.JUL.2014 11:02:25

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



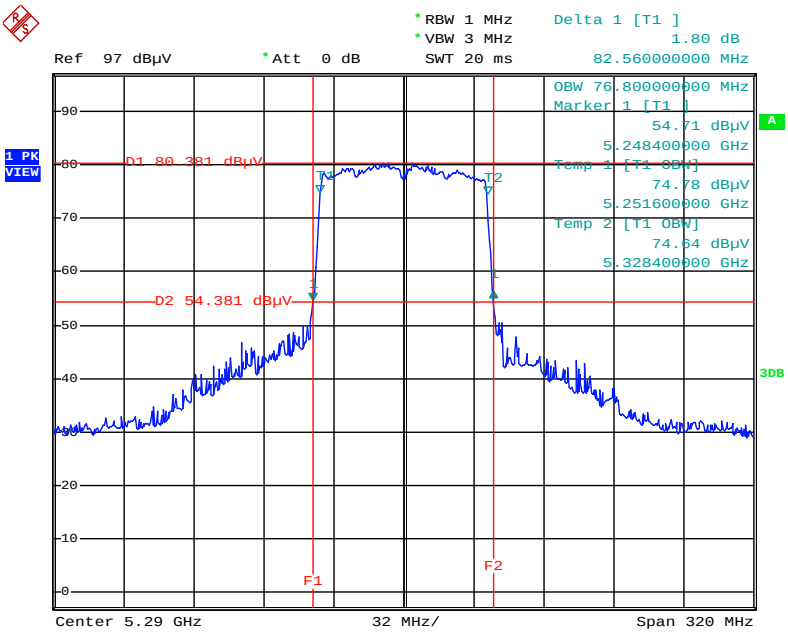
Date: 1.JUL.2014 14:14:44

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



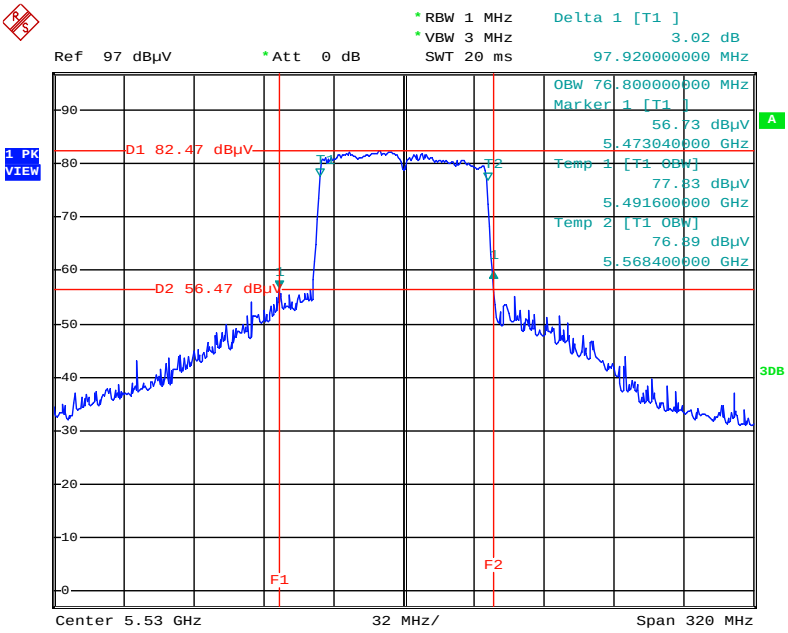
Date: 25.JUL.2014 11:02:50

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



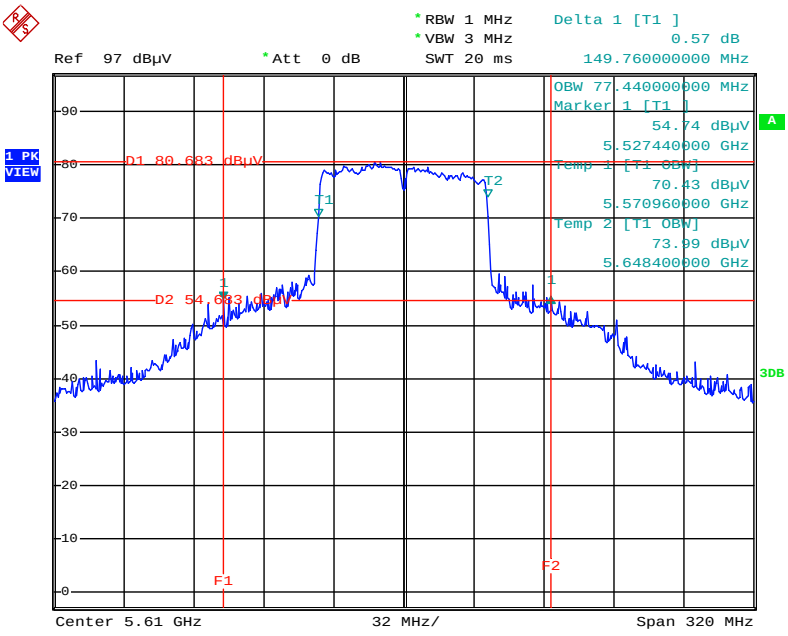
Date: 1.JUL.2014 14:16:23

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



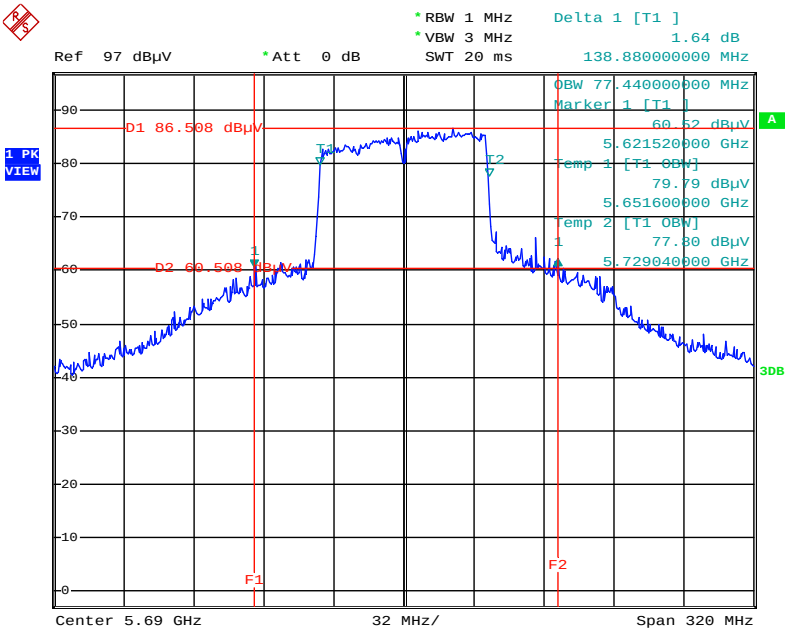
Date: 1.JUL.2014 14:16:59

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



Date: 8.JUL.2014 14:00:10

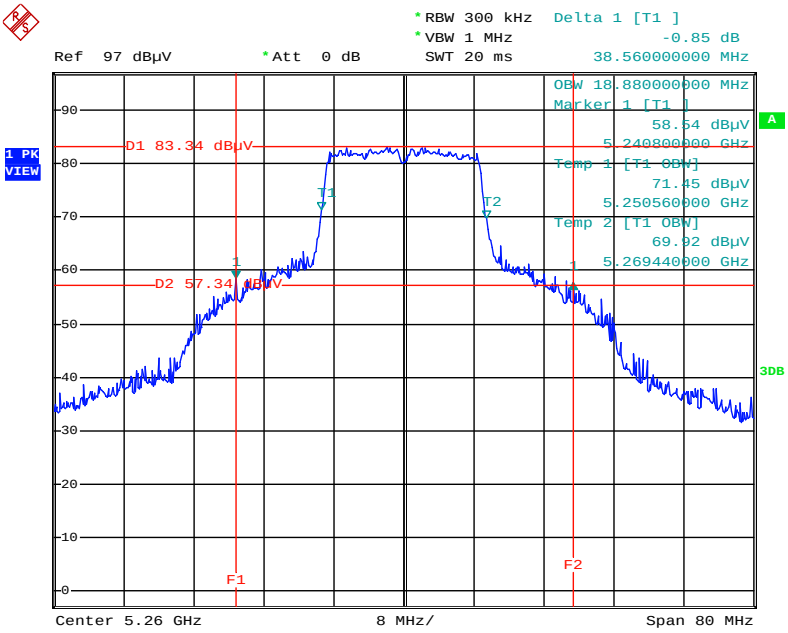
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2 / 5690 MHz



Date: 1.JUL.2014 14:17:34

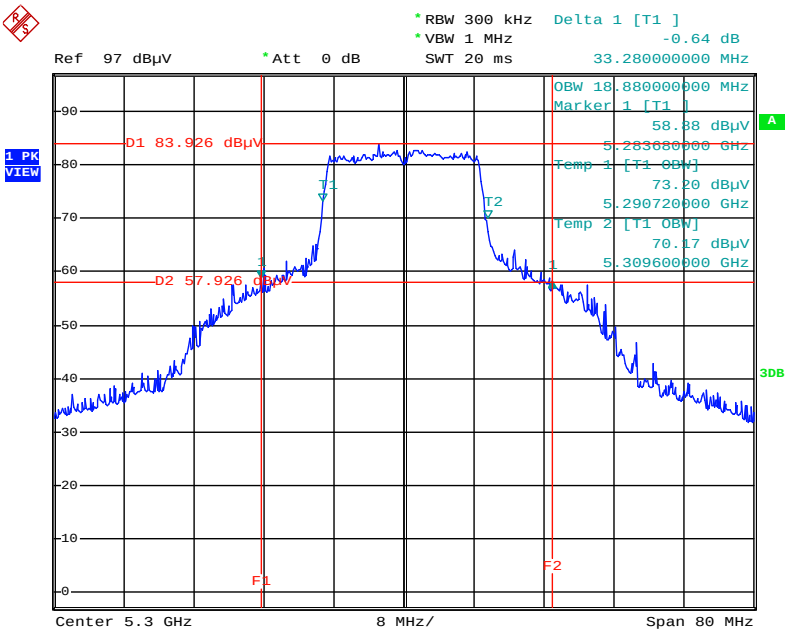
Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

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



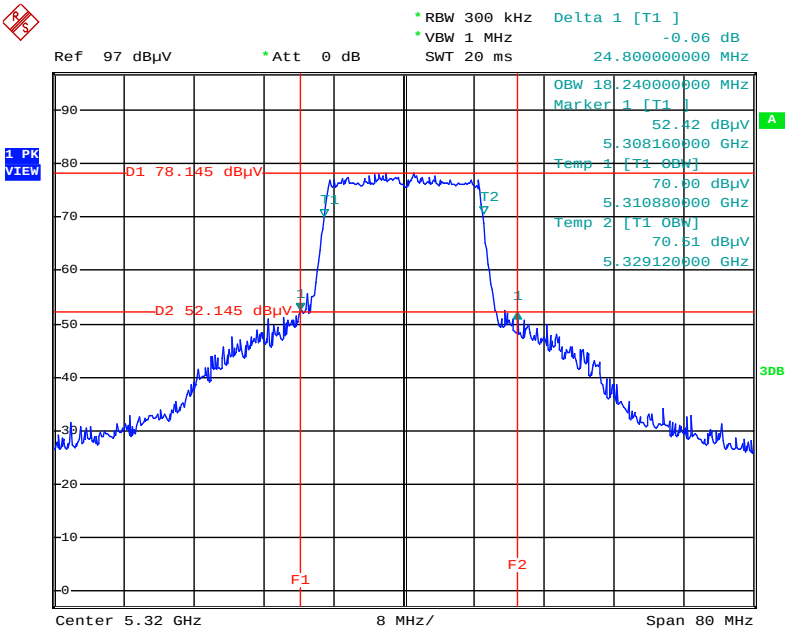
Date: 14.AUG.2014 19:19:14

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



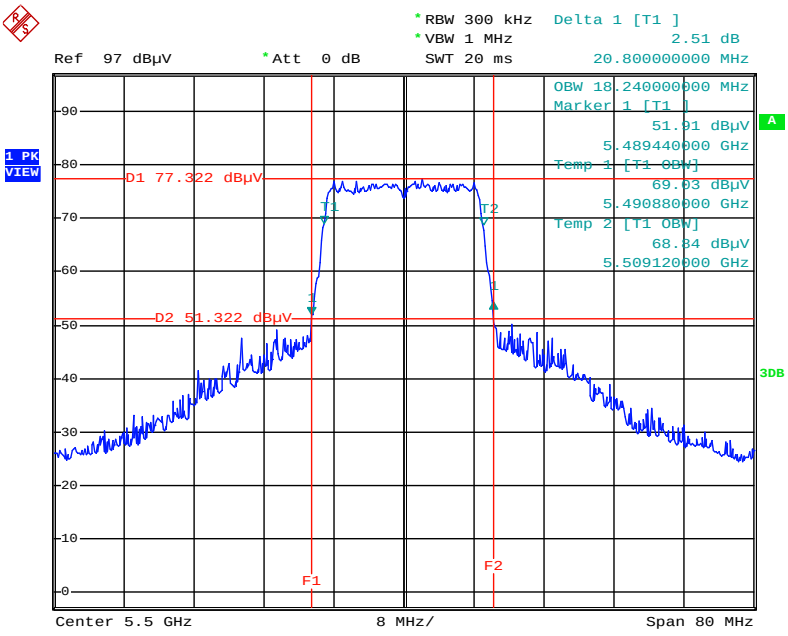
Date: 14.AUG.2014 19:21:02

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



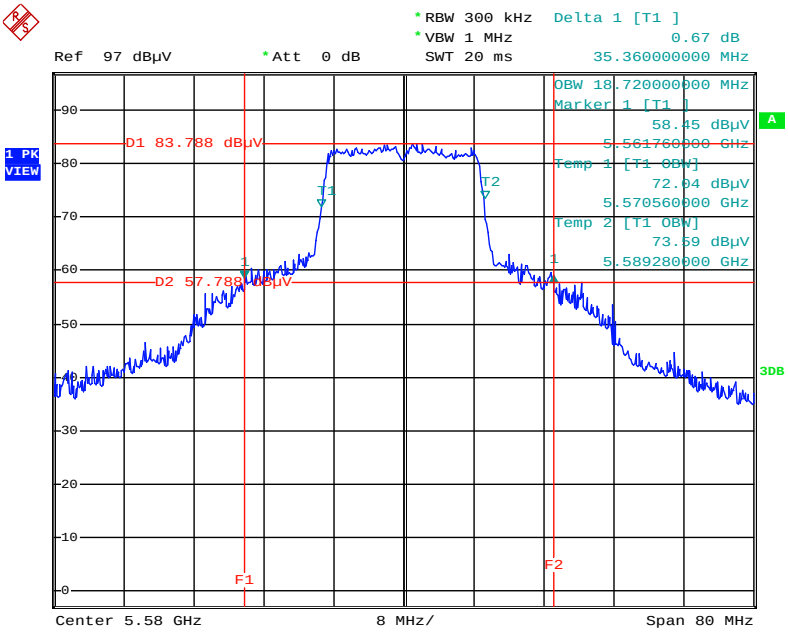
Date: 30.JUN.2014 21:52:03

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



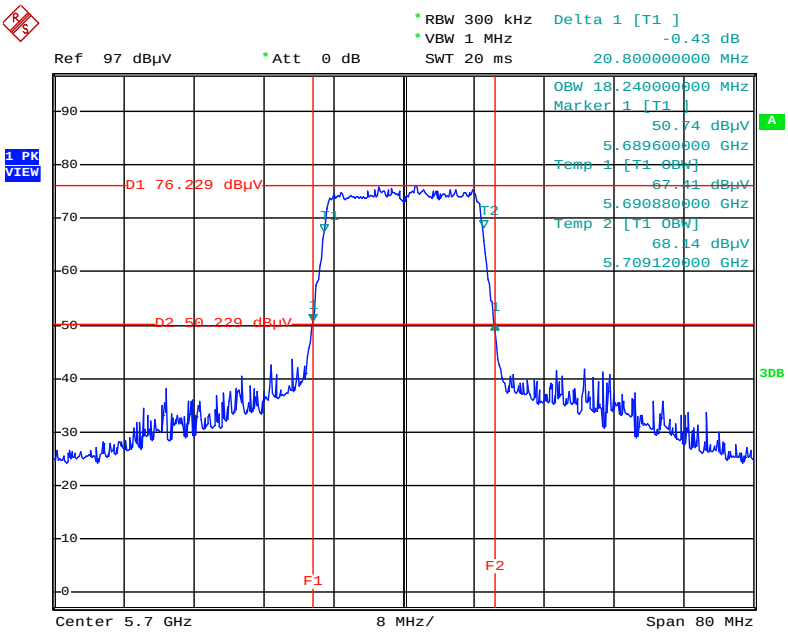
Date: 30.JUN.2014 21:52:44

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



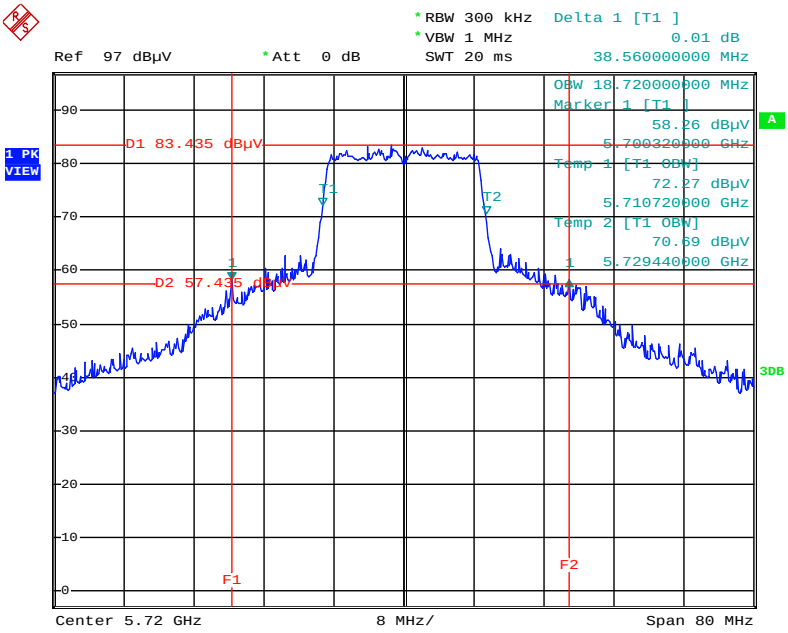
Date: 14.AUG.2014 19:26:01

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



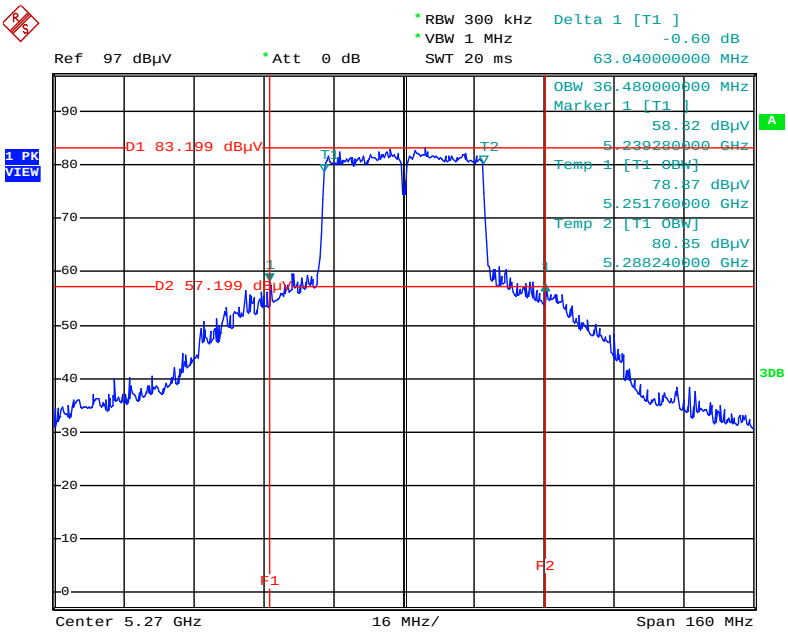
Date: 30.JUN.2014 21:54:22

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



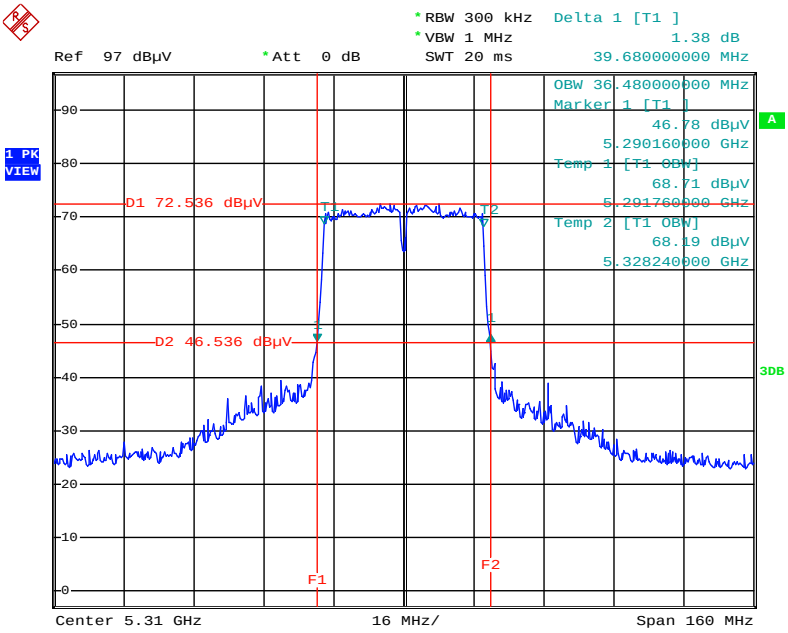
Date: 14.AUG.2014 19:31:17

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



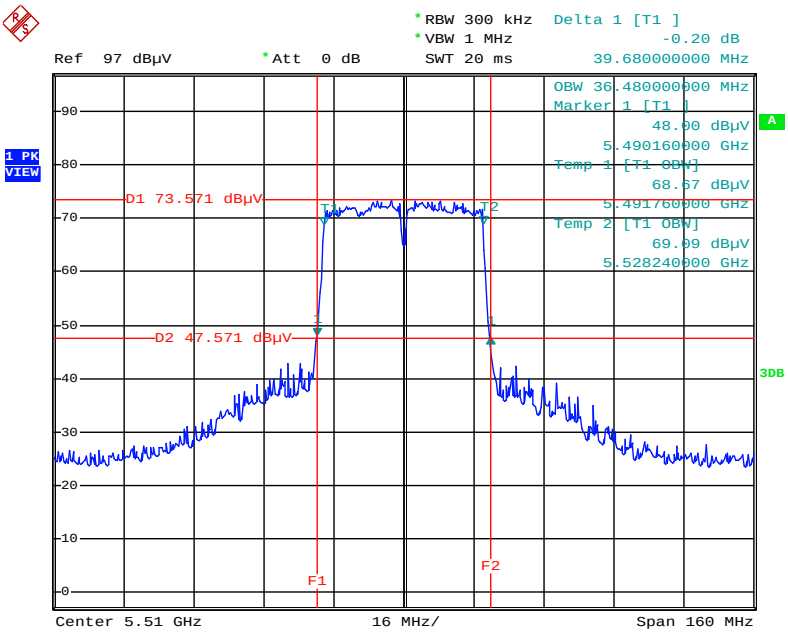
Date: 25.JUL.2014 12:22:31

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



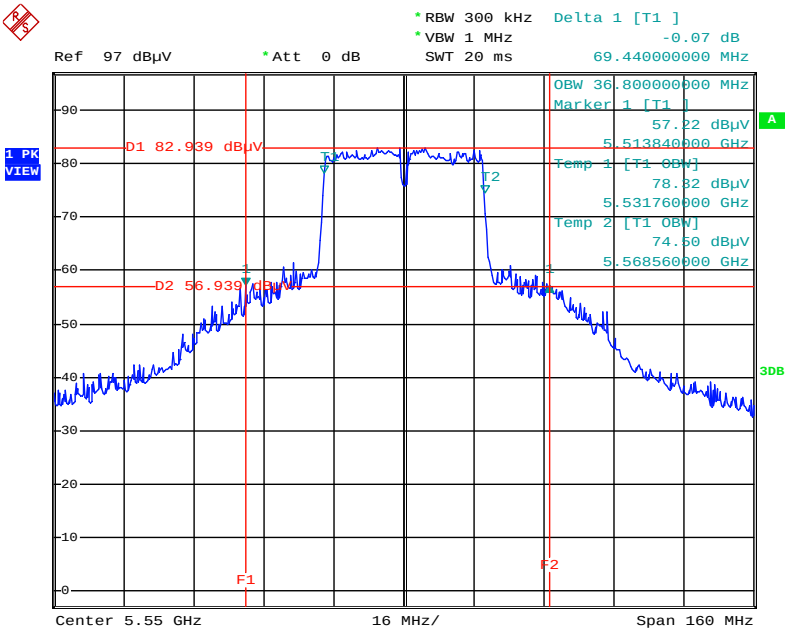
Date: 30.JUN.2014 21:56:18

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



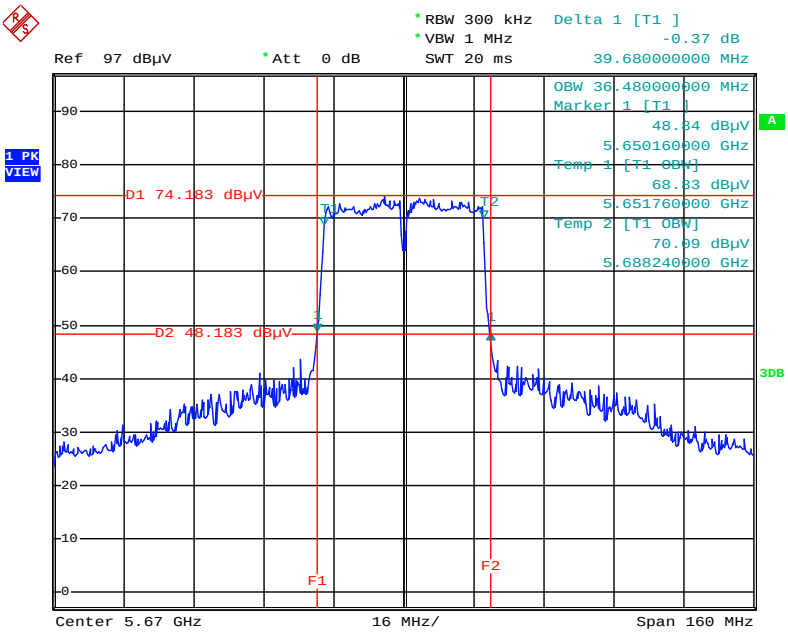
Date: 30.JUN.2014 21:56:55

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



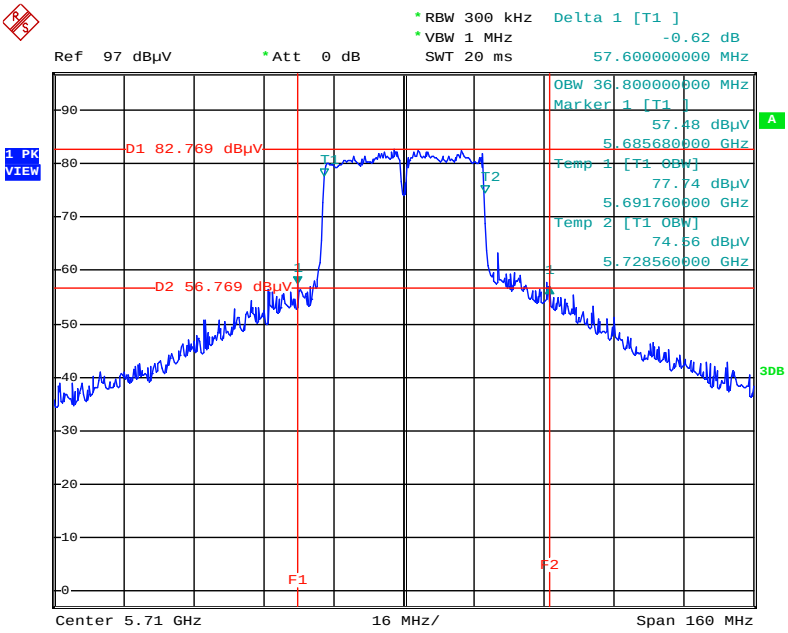
Date: 25.JUL.2014 12:27:19

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



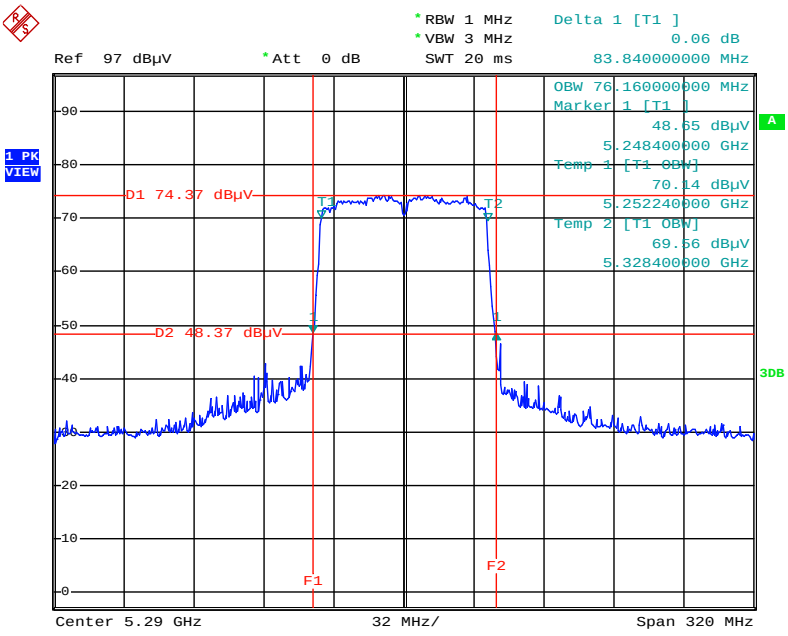
Date: 30.JUN.2014 21:58:09

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



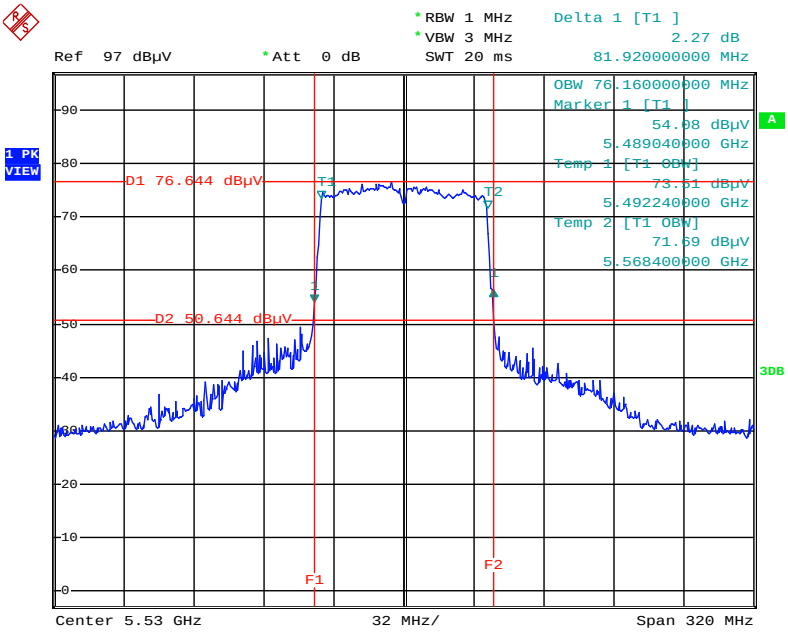
Date: 25.JUL.2014 12:27:47

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



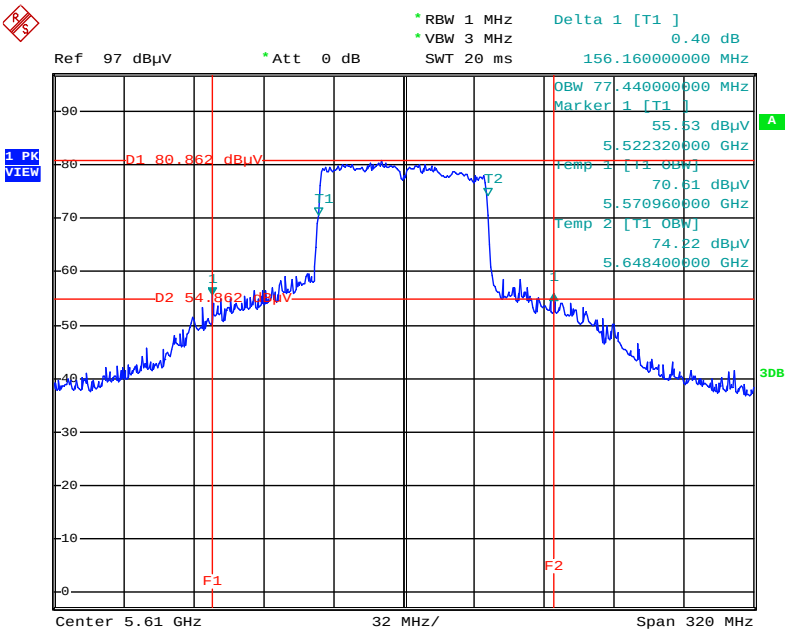
Date: 30.JUN.2014 21:59:31

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



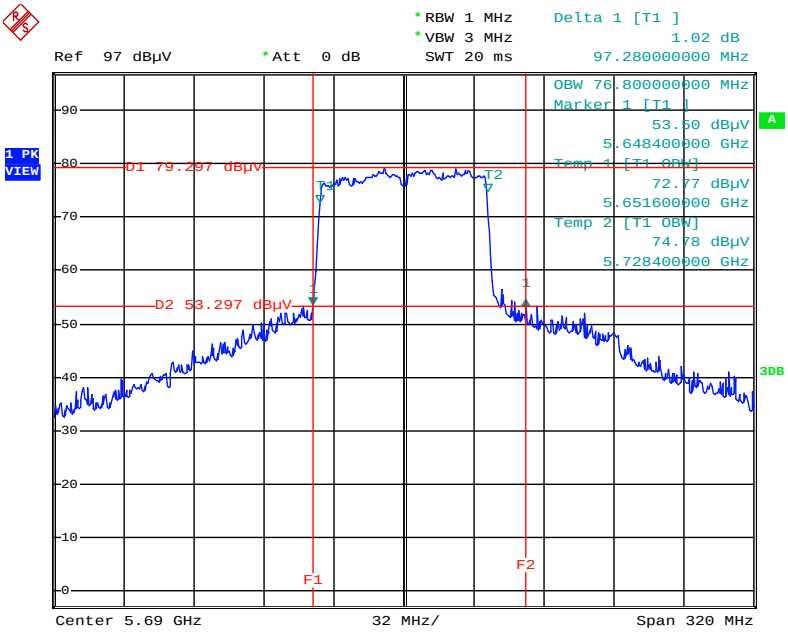
Date: 30.JUN.2014 22:00:09

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



Date: 8.JUL.2014 14:24:44

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

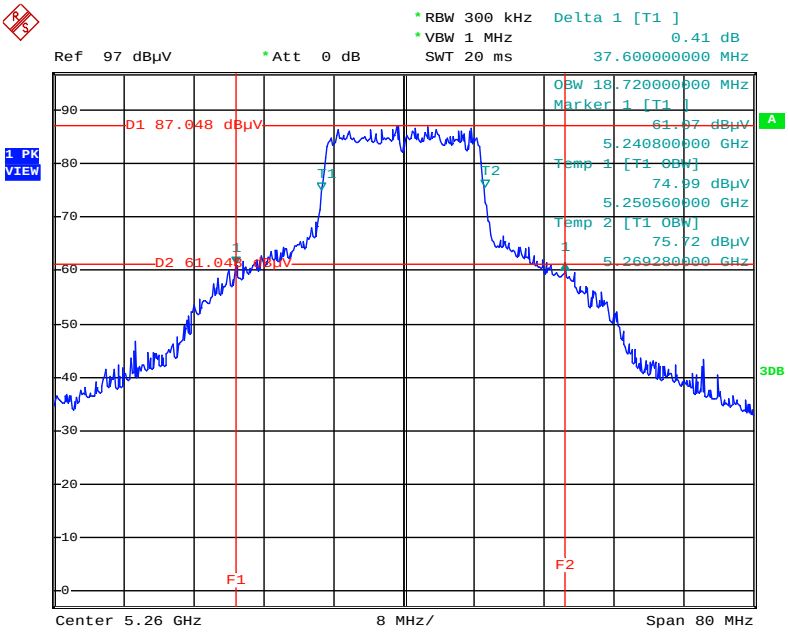


Date: 30.JUN.2014 22:00:50

<For STBC Mode>

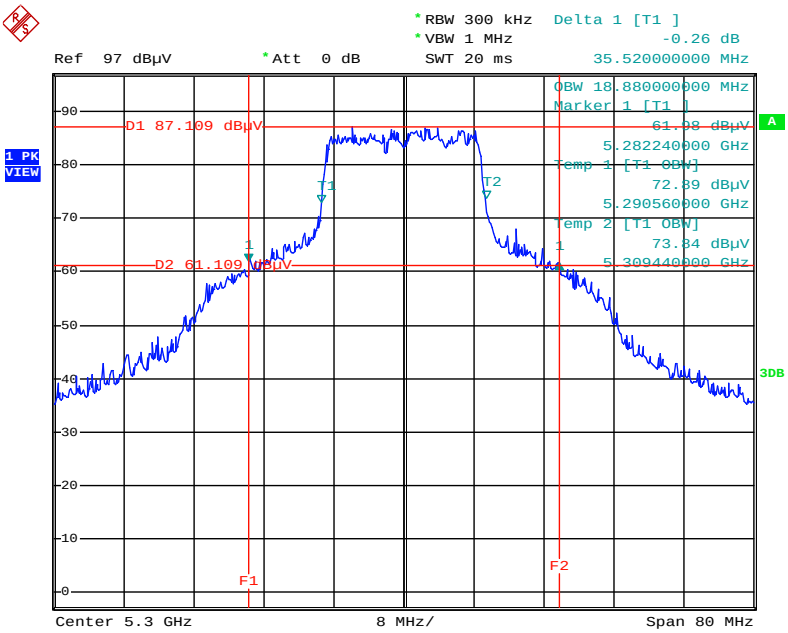
Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

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



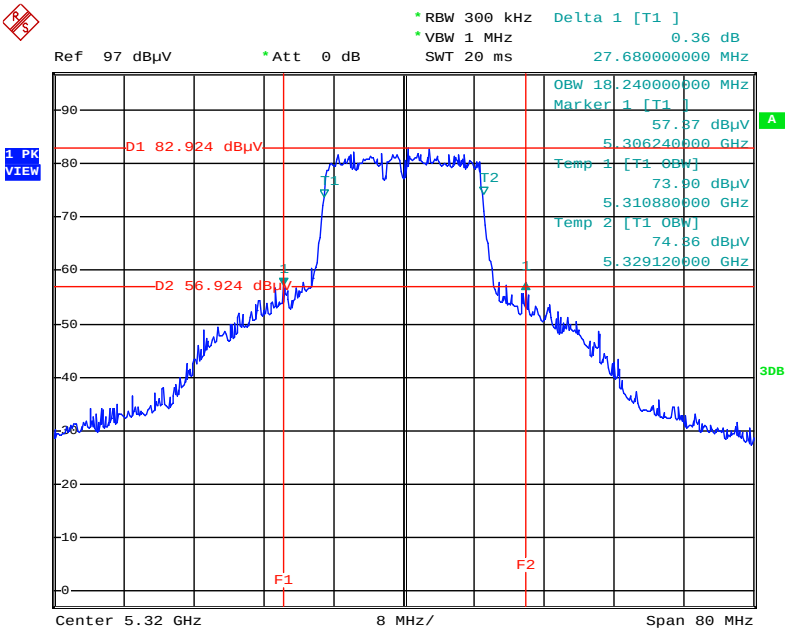
Date: 14.AUG.2014 21:15:33

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



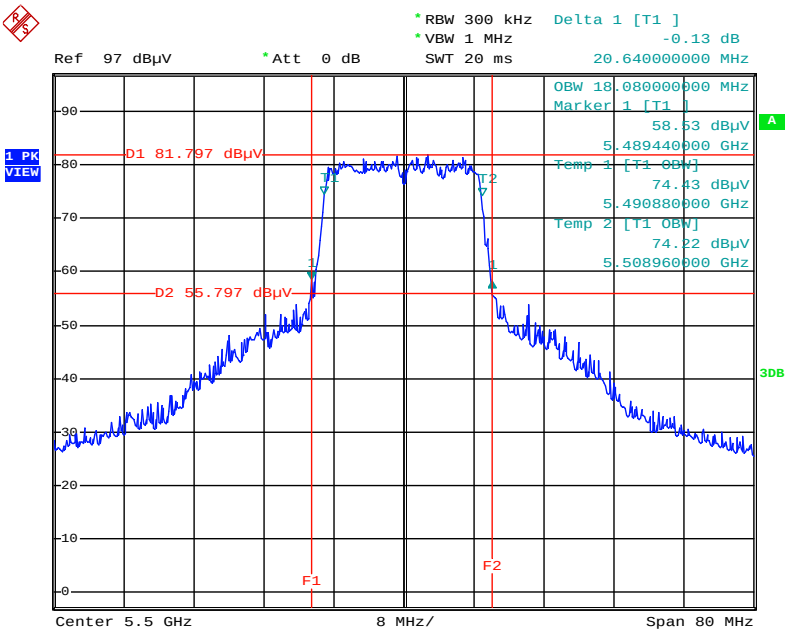
Date: 14.AUG.2014 21:16:54

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



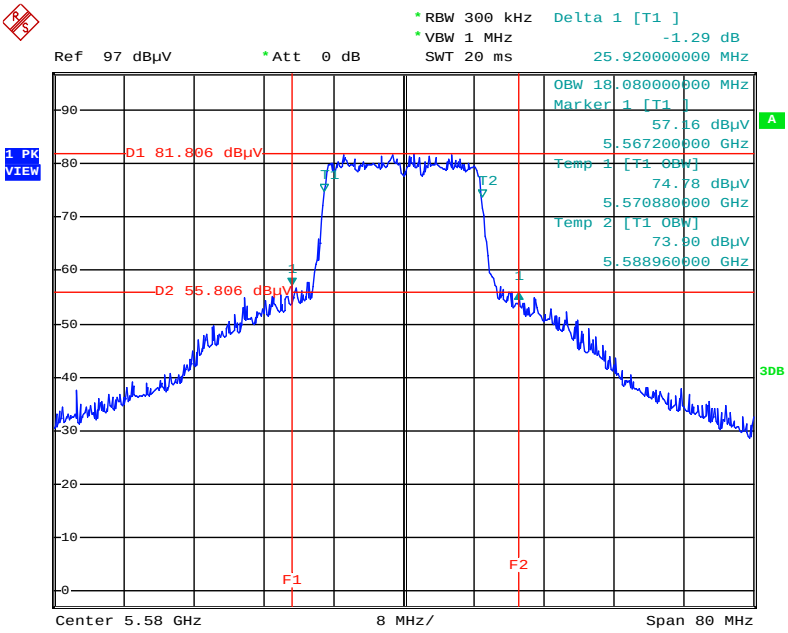
Date: 1.JUL.2014 13:24:08

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



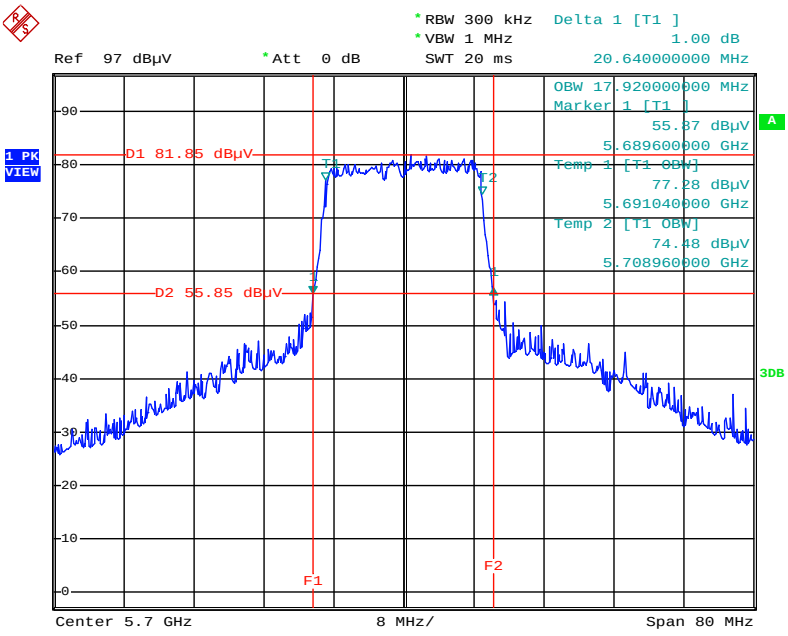
Date: 1.JUL.2014 13:24:50

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



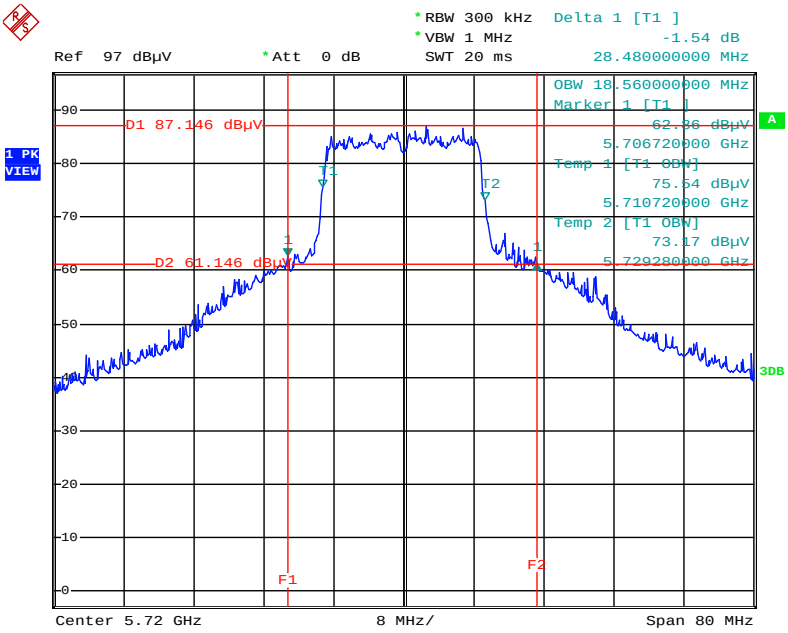
Date: 1.JUL.2014 13:25:29

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



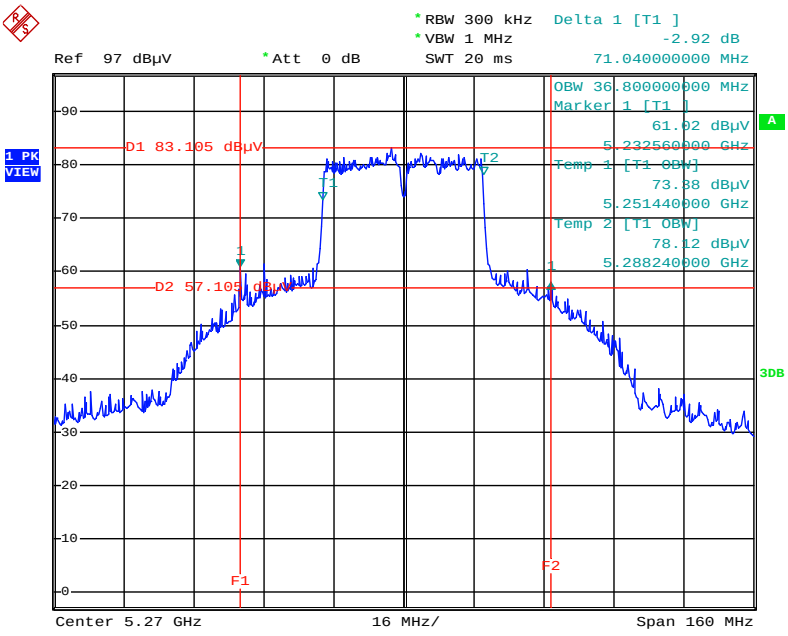
Date: 1.JUL.2014 13:26:18

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



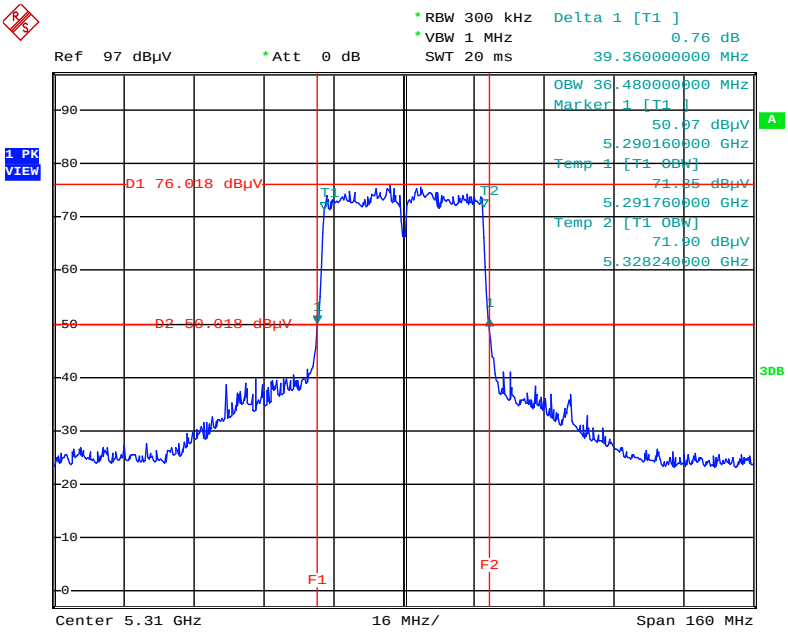
Date: 1.JUL.2014 13:27:11

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



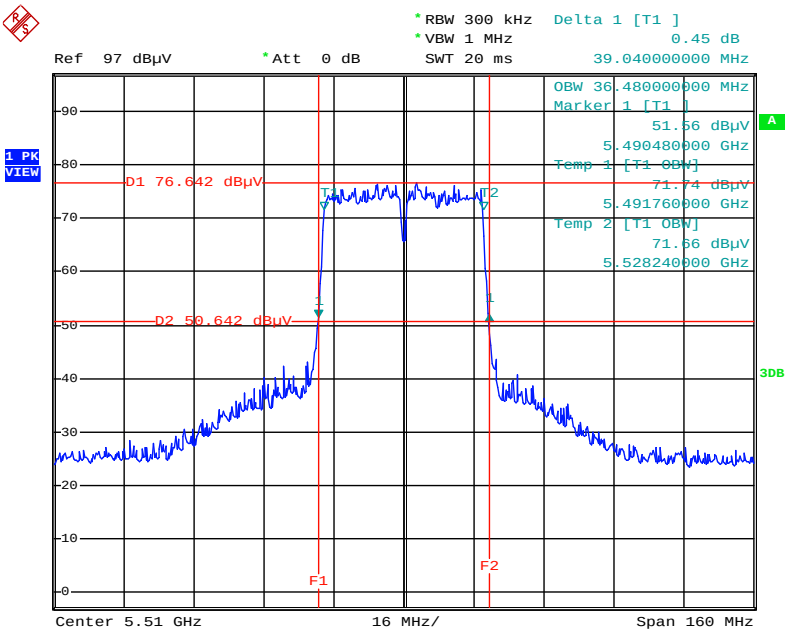
Date: 25.JUL.2014 11:35:48

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



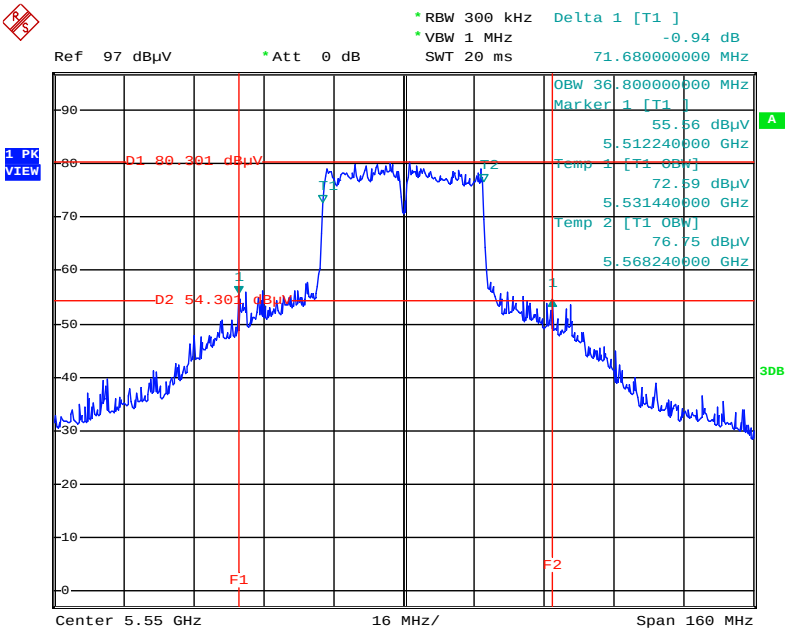
Date: 1.JUL.2014 13:28:32

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



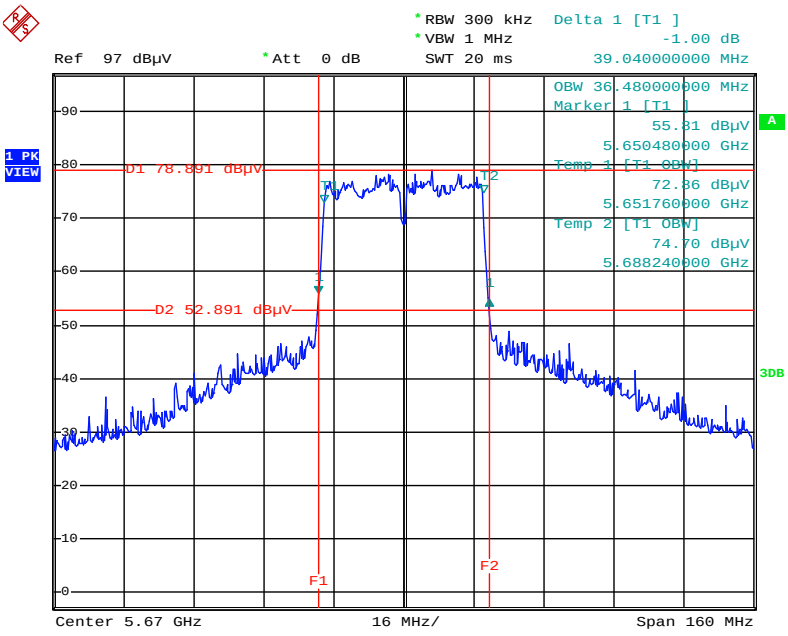
Date: 1.JUL.2014 13:29:27

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



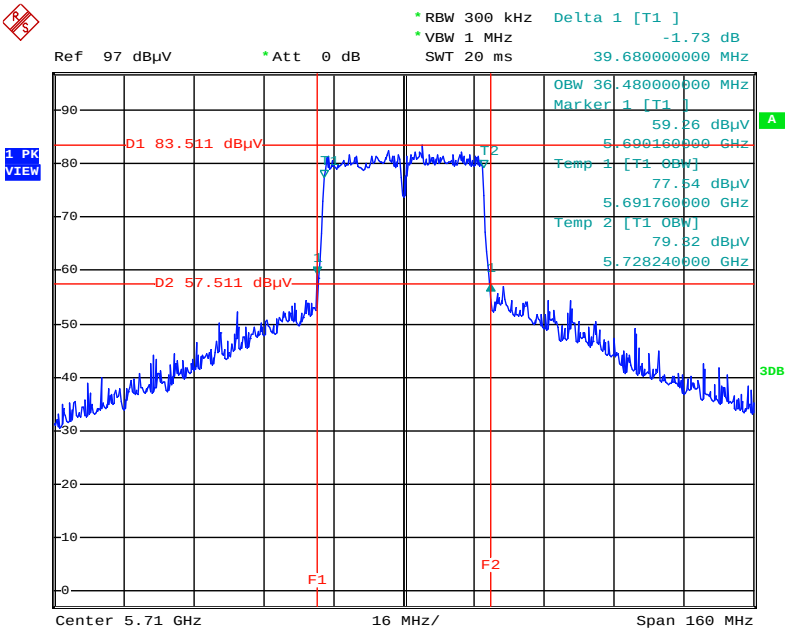
Date: 1.JUL.2014 13:36:11

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



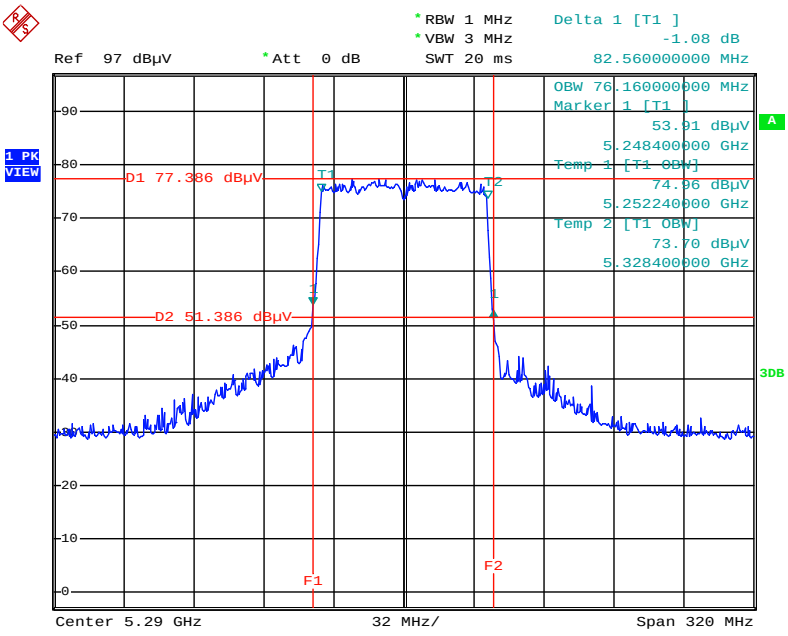
Date: 1.JUL.2014 13:37:00

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



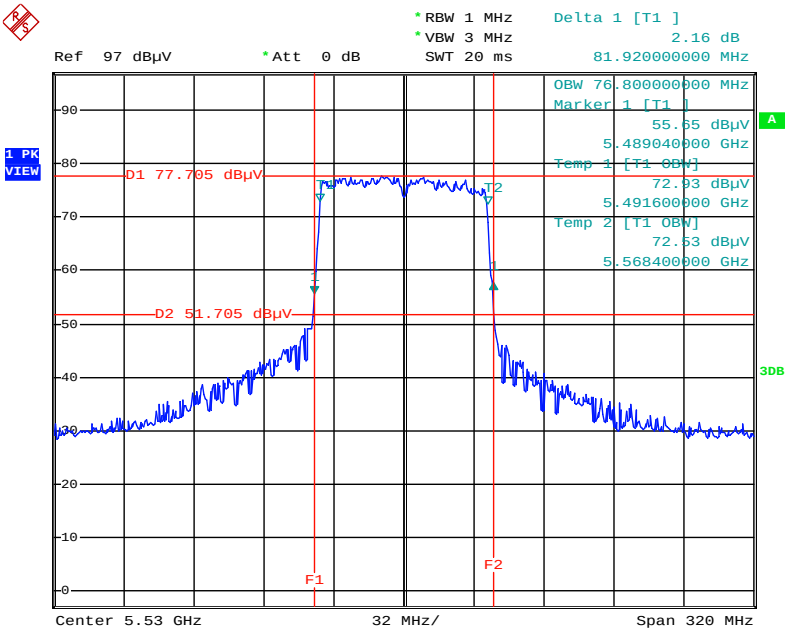
Date: 25.JUL.2014 11:36:44

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



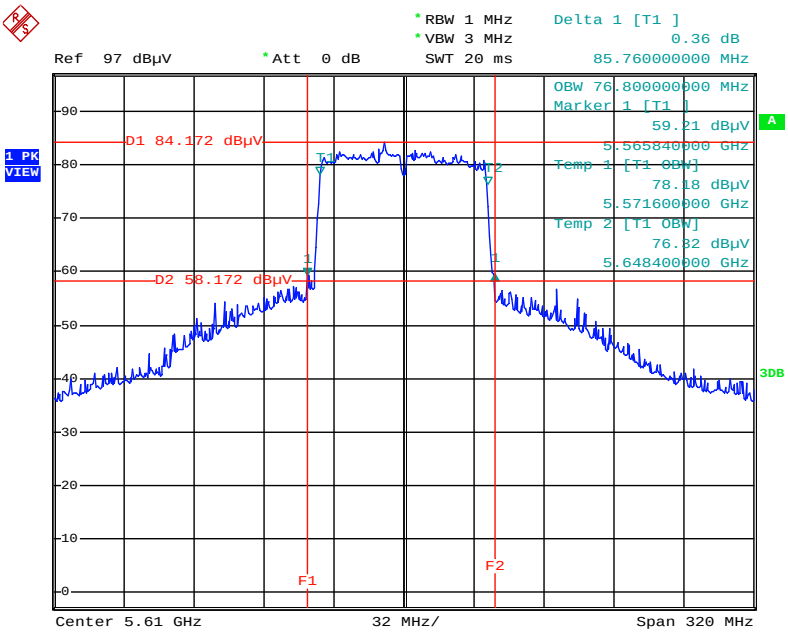
Date: 1.JUL.2014 13:39:31

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



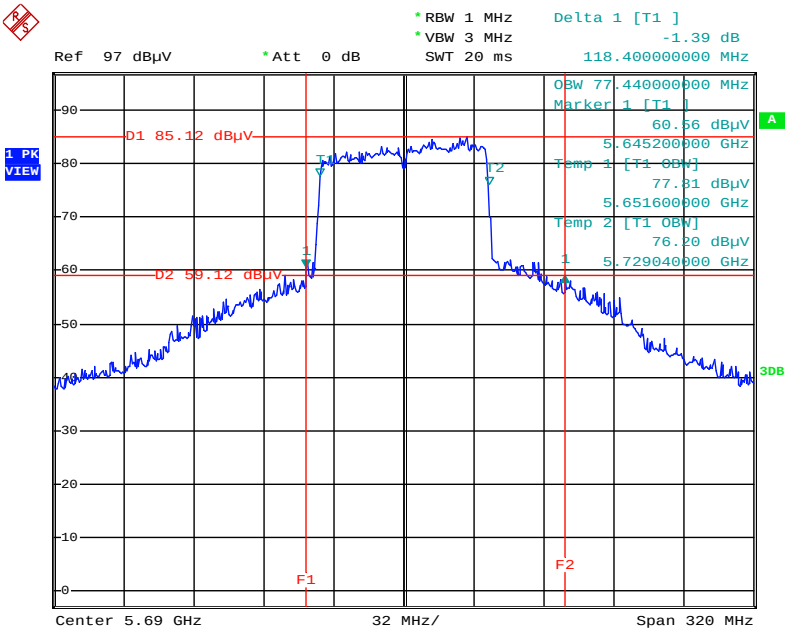
Date: 1.JUL.2014 13:40:14

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



Date: 8.JUL.2014 14:02:07

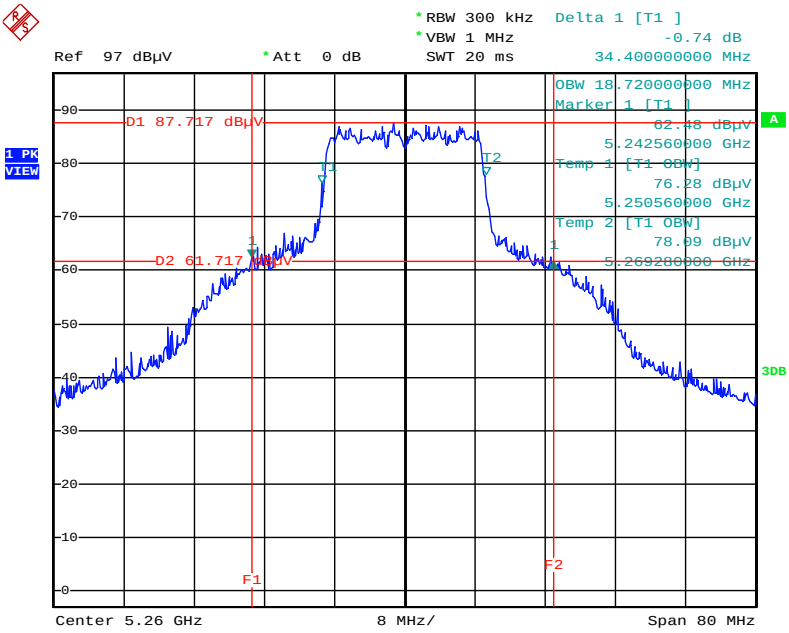
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 / 5690 MHz



Date: 1.JUL.2014 13:40:55

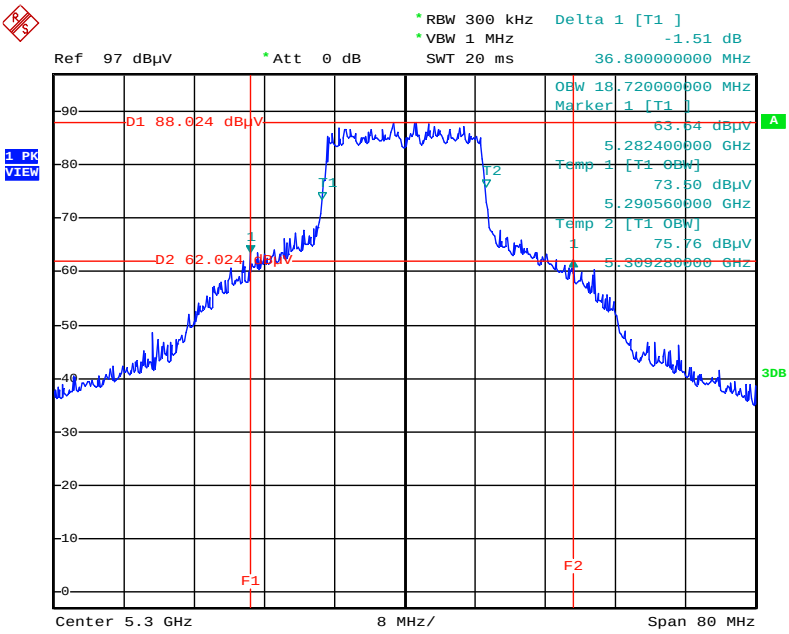
Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

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



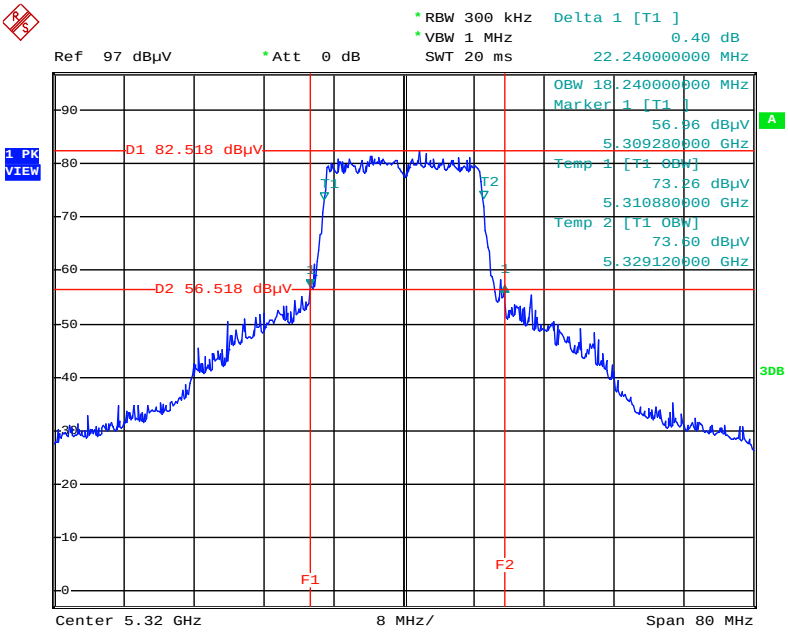
Date: 14.AUG.2014 18:01:45

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



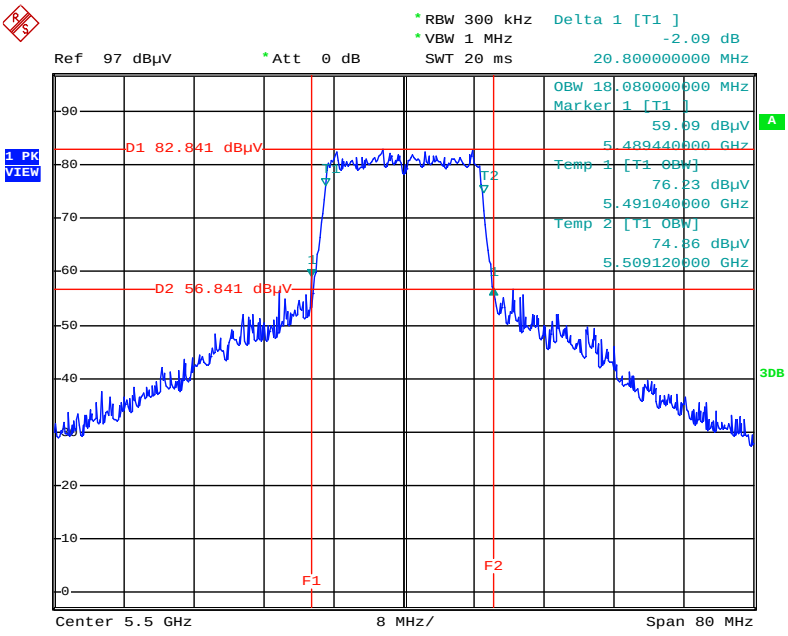
Date: 14.AUG.2014 18:02:19

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



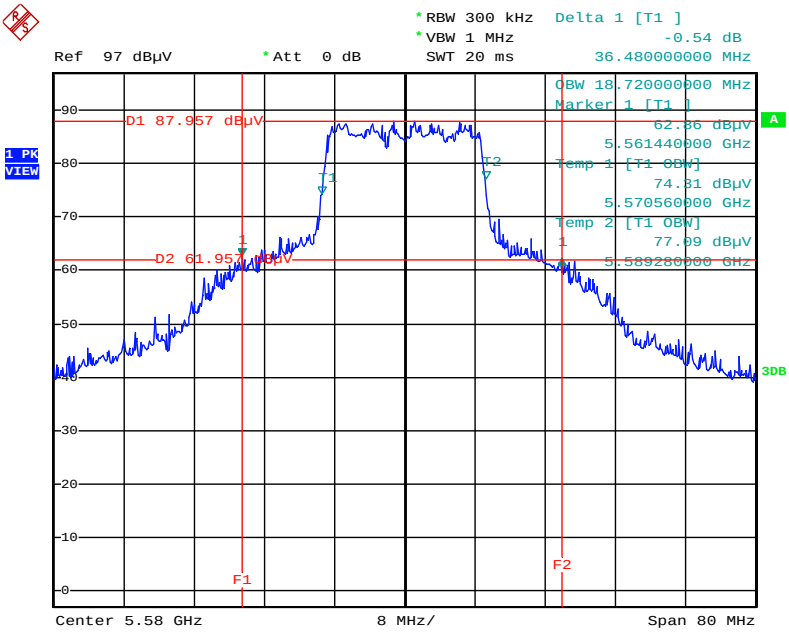
Date: 30.JUN.2014 20:56:19

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



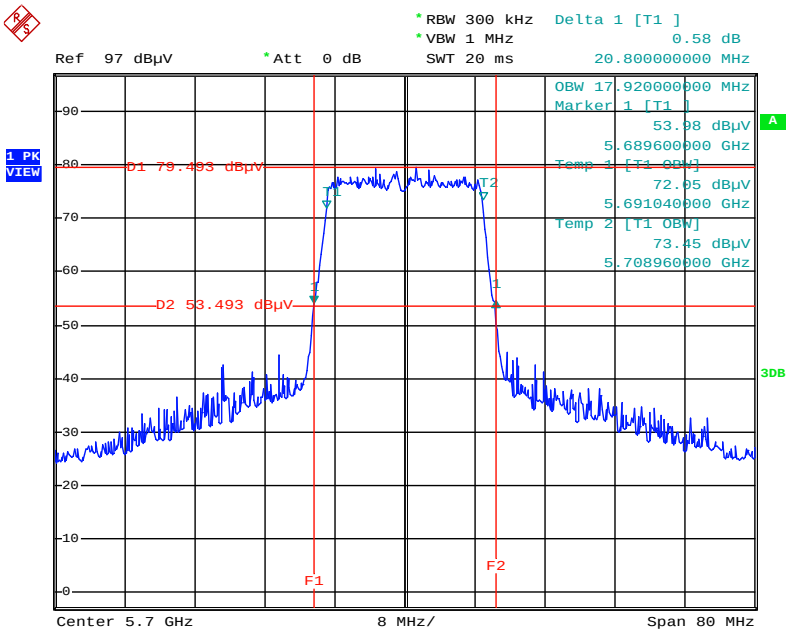
Date: 30.JUN.2014 20:57:41

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



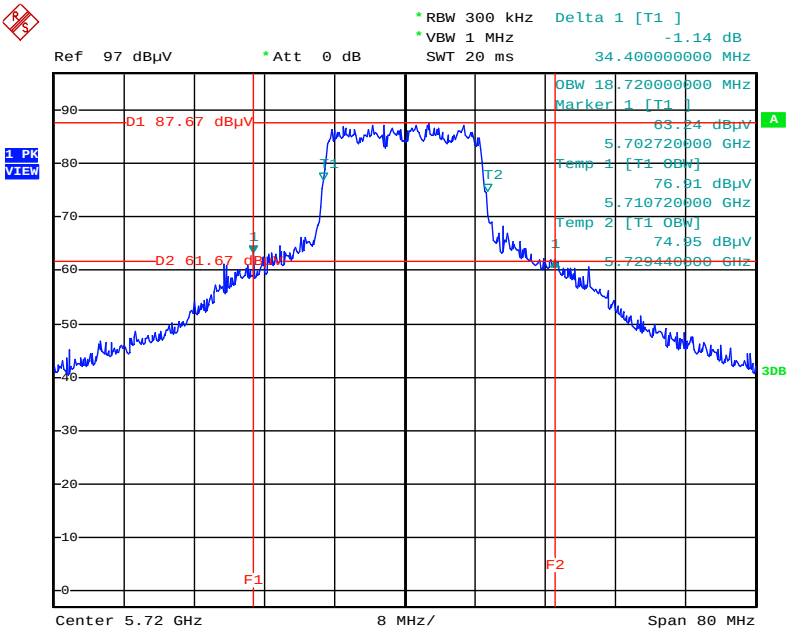
Date: 14.AUG.2014 17:58:54

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



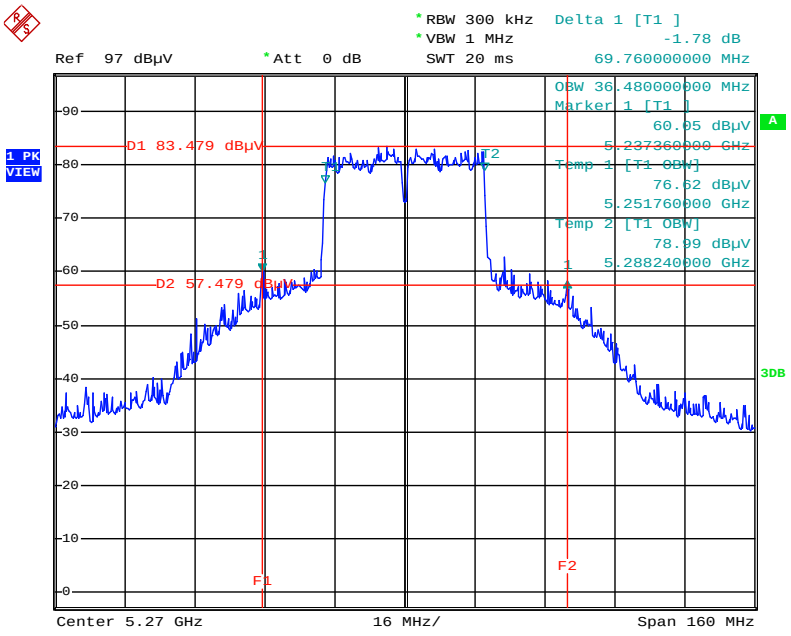
Date: 30.JUN.2014 20:59:43

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



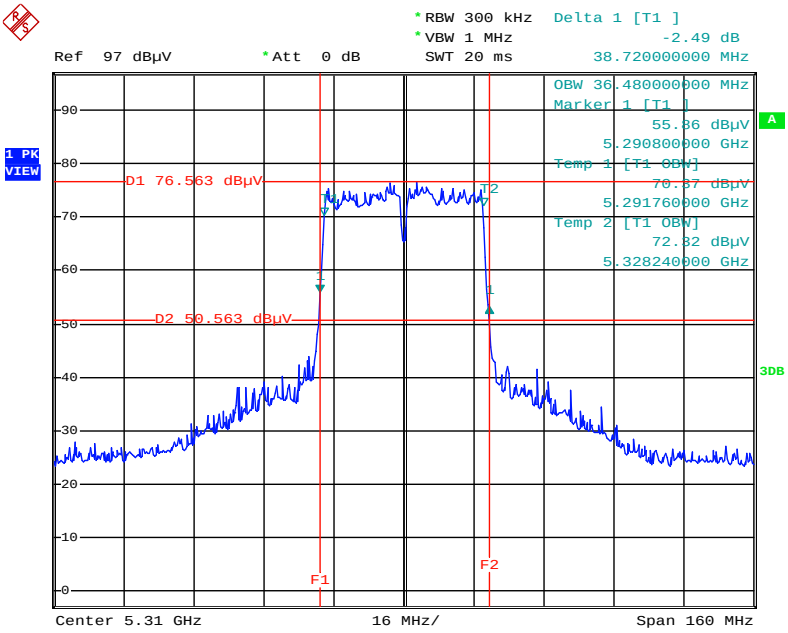
Date: 14.AUG.2014 18:01:03

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



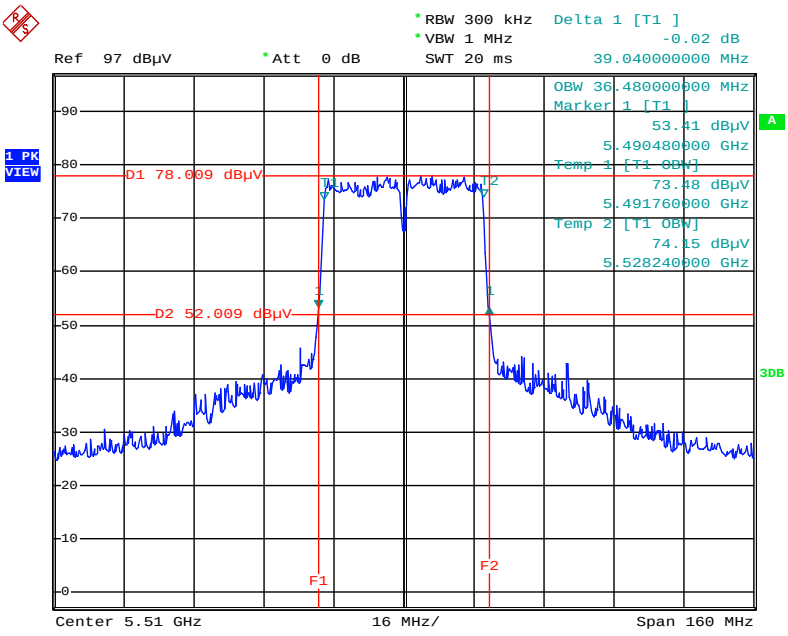
Date: 25.JUL.2014 12:51:51

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



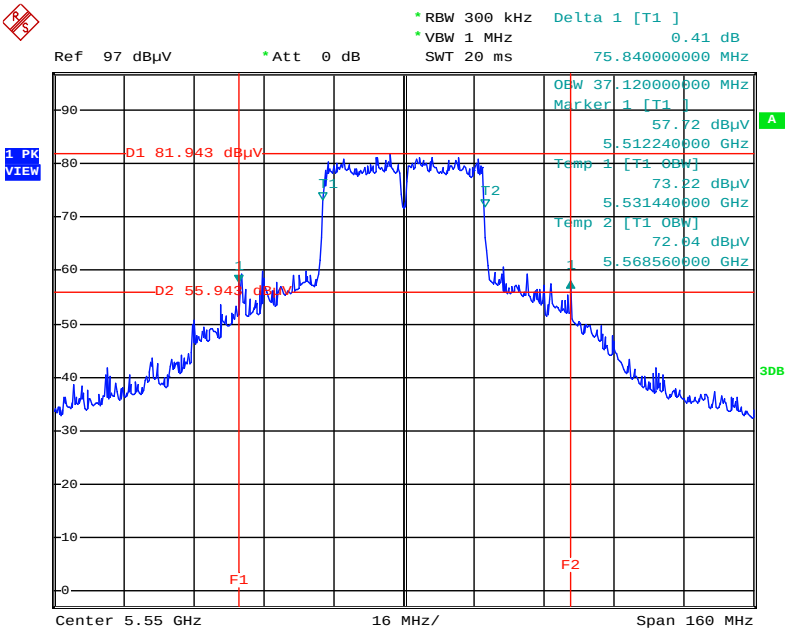
Date: 30.JUN.2014 21:02:34

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



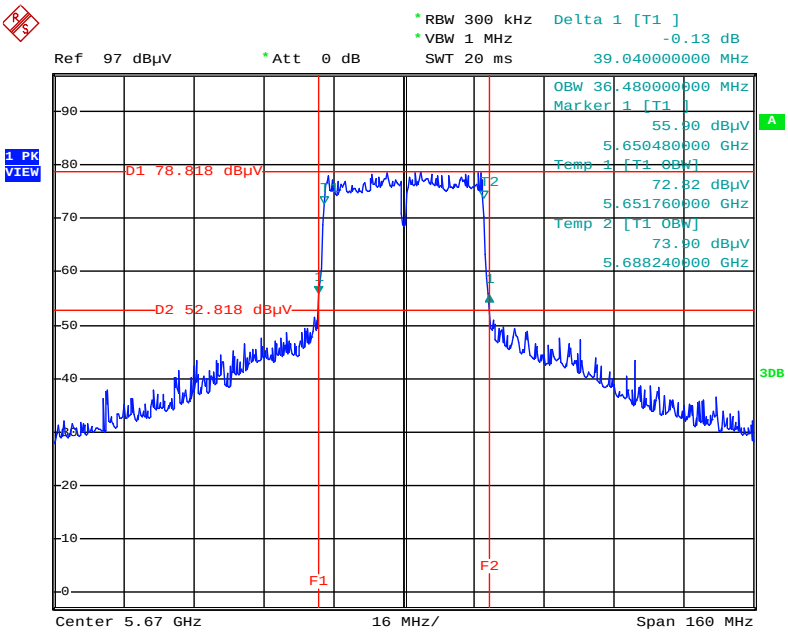
Date: 30.JUN.2014 21:03:20

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



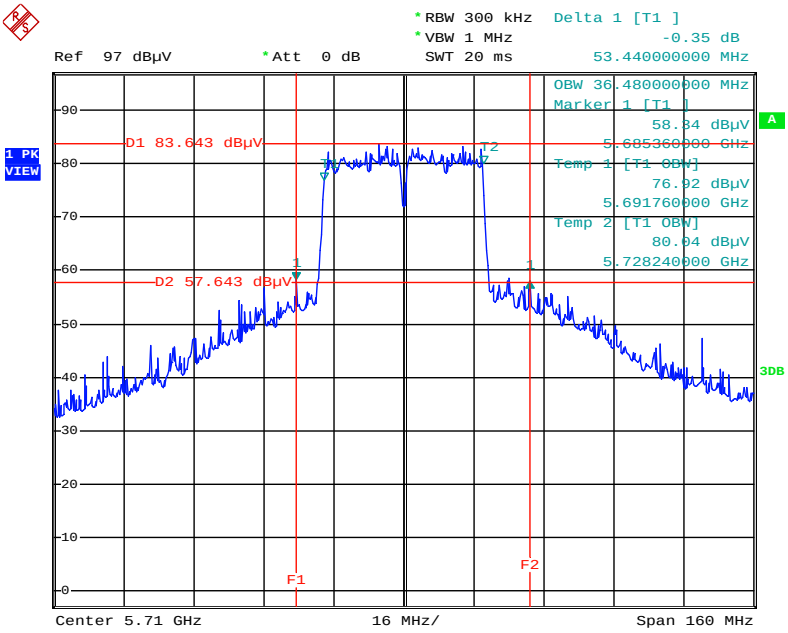
Date: 30.JUN.2014 21:04:01

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



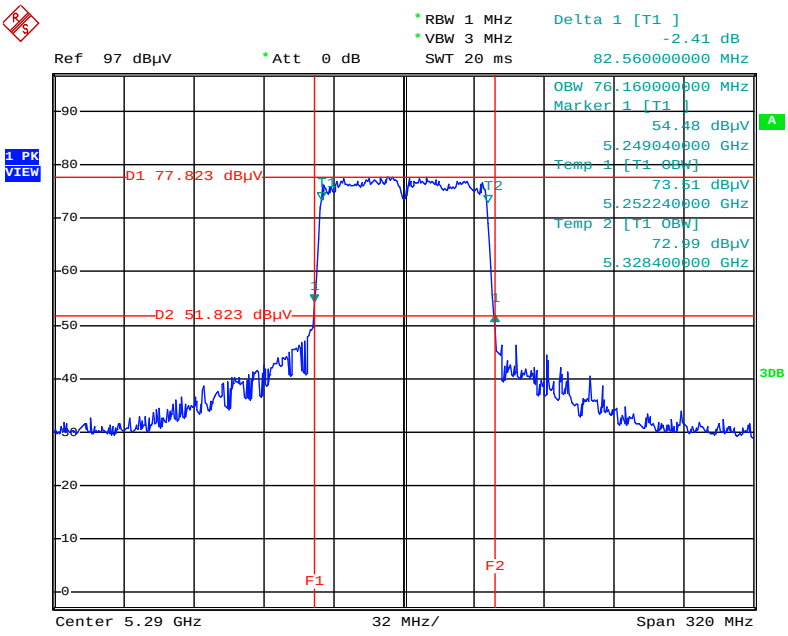
Date: 30.JUN.2014 21:04:42

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



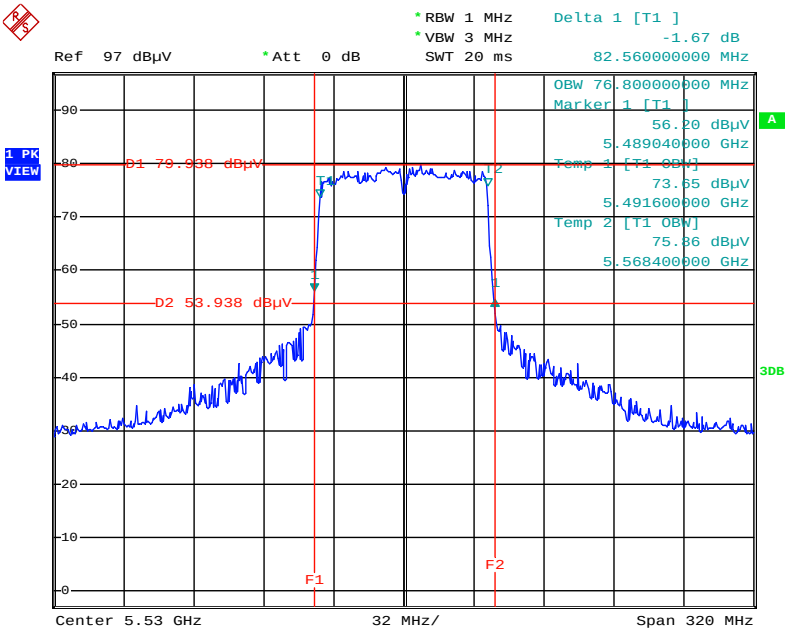
Date: 25.JUL.2014 12:53:44

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



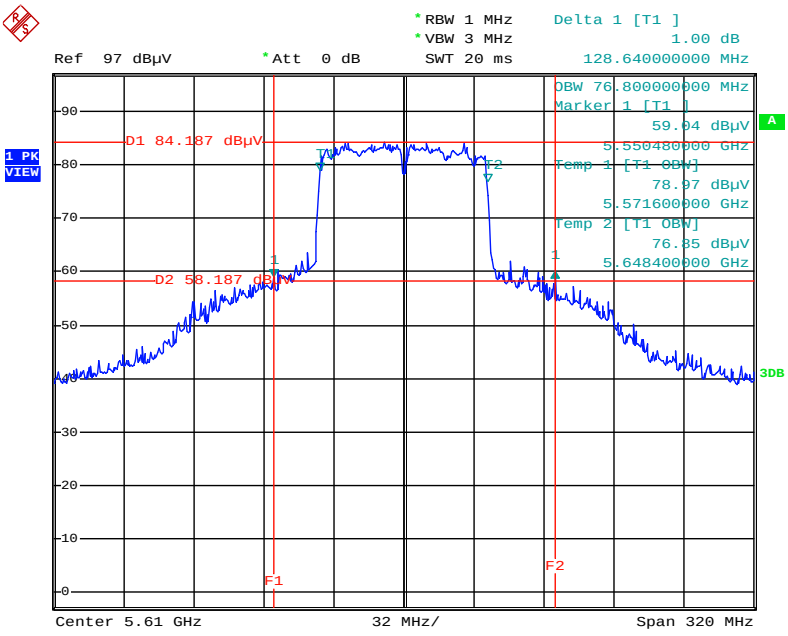
Date: 30.JUN.2014 21:06:26

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



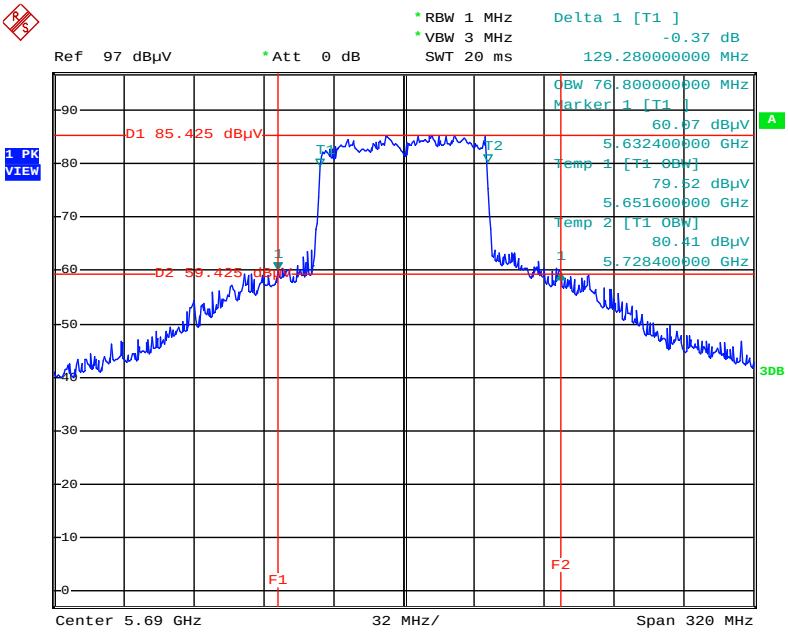
Date: 30.JUN.2014 21:07:19

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



Date: 8.JUL.2014 14:23:43

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



Date: 25.JUL.2014 13:01:13

4.3. Maximum Conducted Output Power Measurement

4.3.1. Limit

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

4.3.2. Measuring Instruments and Setting

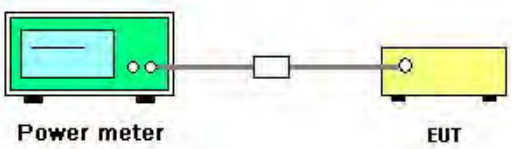
Please refer to section 5 of equipments list in this report. The following table is the setting of the power meter.

Power Meter Parameter	Setting
Detector	AVERAGE

4.3.3. Test Procedures

1. The transmitter output (antenna port) was connected to the power meter.
2. Test was performed in accordance with KDB789033 D02 v01 for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - section (E) Maximum conducted output power =>3. Measurement using a Power Meter (PM) =>b) Method PM-G (Measurement using a gated RF average power meter).
3. Multiple antenna systems was performed in accordance with KDB662911 D01 v02r01 Emissions Testing of Transmitters with Multiple Outputs in the Same Band.
4. When measuring maximum conducted output power with multiple antenna systems,add every result of the values by mathematic formula.

4.3.4. Test Setup Layout



4.3.5. Test Deviation

There is no deviation with the original standard.

4.3.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.3.7. Test Result of Maximum Conducted Output Power

<For Non-Beamforming Mode>

Temperature	22°C	Humidity	55%
Test Engineer	Jim Hunag	Configurations	IEEE 802.11a/n/ac
Test Date	Aug. 14, 2014		
Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)		

Configuration IEEE 802.11n MCS0 HT20 / Chain 2

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
52	5260 MHz	17.92	24.00	Complies
60	5300 MHz	18.31	24.00	Complies
64	5320 MHz	17.57	24.00	Complies
100	5500 MHz	16.88	24.00	Complies
116	5580 MHz	18.63	24.00	Complies
140	5700 MHz	14.18	24.00	Complies
144	5720 MHz	20.48	24.00	Complies

Configuration IEEE 802.11n MCS0 HT40 / Chain 2

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
54	5270 MHz	17.41	24.00	Complies
62	5310 MHz	13.72	24.00	Complies
102	5510 MHz	14.42	24.00	Complies
110	5550 MHz	17.48	24.00	Complies
134	5670 MHz	16.81	24.00	Complies
142	5710 MHz	17.82	24.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
52	5260 MHz	18.01	24.00	Complies
60	5300 MHz	18.49	24.00	Complies
64	5320 MHz	17.62	24.00	Complies
100	5500 MHz	16.82	24.00	Complies
116	5580 MHz	18.71	24.00	Complies
140	5700 MHz	14.38	24.00	Complies
144	5720 MHz	20.53	24.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
54	5270 MHz	17.46	24.00	Complies
62	5310 MHz	13.61	24.00	Complies
102	5510 MHz	14.43	24.00	Complies
110	5550 MHz	17.58	24.00	Complies
134	5670 MHz	16.83	24.00	Complies
142	5710 MHz	17.74	24.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
58	5290 MHz	13.42	24.00	Complies
106	5530 MHz	15.85	24.00	Complies
122	5610 MHz	17.83	24.00	Complies
138	5690 MHz	19.53	24.00	Complies

Configuration IEEE 802.11a / Chain 2

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
52	5260 MHz	18.03	24.00	Complies
60	5300 MHz	18.29	24.00	Complies
64	5320 MHz	17.74	24.00	Complies
100	5500 MHz	16.88	24.00	Complies
116	5580 MHz	18.73	24.00	Complies
140	5700 MHz	14.42	24.00	Complies
144	5720 MHz	20.45	24.00	Complies

Temperature	22°C	Humidity	55%
Test Engineer	Jim Huang	Configurations	IEEE 802.11a/n/ac
Test Date	Jul. 01, 2014		
Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)		

Configuration IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
52	5260 MHz	16.81	18.24	20.59	24.00	Complies
60	5300 MHz	17.62	18.29	20.98	24.00	Complies
64	5320 MHz	16.82	17.38	20.12	24.00	Complies
100	5500 MHz	15.45	16.74	19.15	24.00	Complies
116	5580 MHz	17.62	18.95	21.35	24.00	Complies
140	5700 MHz	13.42	14.07	16.77	24.00	Complies
144	5720 MHz	18.92	19.94	22.47	24.00	Complies

Configuration IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
54	5270 MHz	16.96	18.12	20.59	24.00	Complies
62	5310 MHz	12.16	13.08	15.65	24.00	Complies
102	5510 MHz	13.25	14.33	16.83	24.00	Complies
110	5550 MHz	16.85	17.92	20.43	24.00	Complies
134	5670 MHz	15.57	16.55	19.10	24.00	Complies
142	5710 MHz	17.92	18.61	21.29	24.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
52	5260 MHz	16.77	18.21	20.56	24.00	Complies
60	5300 MHz	17.54	18.28	20.94	24.00	Complies
64	5320 MHz	16.89	17.56	20.25	24.00	Complies
100	5500 MHz	15.41	16.86	19.21	24.00	Complies
116	5580 MHz	17.59	18.92	21.32	24.00	Complies
140	5700 MHz	13.38	14.12	16.78	24.00	Complies
144	5720 MHz	18.88	19.90	22.43	24.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
54	5270 MHz	16.91	18.17	20.60	24.00	Complies
62	5310 MHz	12.20	13.02	15.64	24.00	Complies
102	5510 MHz	13.26	14.35	16.85	24.00	Complies
110	5550 MHz	16.91	17.99	20.49	24.00	Complies
134	5670 MHz	15.65	16.36	19.03	24.00	Complies
142	5710 MHz	17.91	18.81	21.39	24.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
58	5290 MHz	10.91	12.72	14.92	24.00	Complies
106	5530 MHz	12.04	13.75	15.99	24.00	Complies
122	5610 MHz	14.78	16.57	18.78	24.00	Complies
138	5690 MHz	18.42	19.76	22.15	24.00	Complies

Configuration IEEE 802.11a / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
52	5260 MHz	16.78	18.16	20.53	24.00	Complies
60	5300 MHz	17.67	18.31	21.01	24.00	Complies
64	5320 MHz	16.87	17.45	20.18	24.00	Complies
100	5500 MHz	15.58	16.75	19.21	24.00	Complies
116	5580 MHz	17.73	19.10	21.48	24.00	Complies
140	5700 MHz	13.61	14.25	16.95	24.00	Complies
144	5720 MHz	18.96	19.90	22.47	24.00	Complies

Temperature	22°C	Humidity	55%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11a/n/ac
Test Date	Jun. 30, 2014		
Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)		

Configuration IEEE 802.11n MCS0 HT20 / Chain 2

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
52	5260 MHz	19.67	24.00	Complies
60	5300 MHz	19.34	24.00	Complies
64	5320 MHz	17.77	24.00	Complies
100	5500 MHz	17.44	24.00	Complies
116	5580 MHz	18.93	24.00	Complies
140	5700 MHz	16.17	24.00	Complies
144	5720 MHz	19.60	24.00	Complies

Configuration IEEE 802.11n MCS0 HT40 / Chain 2

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
54	5270 MHz	17.81	24.00	Complies
62	5310 MHz	14.43	24.00	Complies
102	5510 MHz	15.43	24.00	Complies
110	5550 MHz	18.28	24.00	Complies
134	5670 MHz	16.21	24.00	Complies
142	5710 MHz	17.95	24.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
52	5260 MHz	19.71	24.00	Complies
60	5300 MHz	19.33	24.00	Complies
64	5320 MHz	17.73	24.00	Complies
100	5500 MHz	17.39	24.00	Complies
116	5580 MHz	18.93	24.00	Complies
140	5700 MHz	16.19	24.00	Complies
144	5720 MHz	19.58	24.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
54	5270 MHz	17.88	24.00	Complies
62	5310 MHz	14.42	24.00	Complies
102	5510 MHz	15.51	24.00	Complies
110	5550 MHz	18.31	24.00	Complies
134	5670 MHz	16.26	24.00	Complies
142	5710 MHz	17.87	24.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
58	5290 MHz	13.06	24.00	Complies
106	5530 MHz	14.91	24.00	Complies
122	5610 MHz	18.55	24.00	Complies
138	5690 MHz	18.05	24.00	Complies

Configuration IEEE 802.11a / Chain 2

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
52	5260 MHz	19.69	24.00	Complies
60	5300 MHz	19.37	24.00	Complies
64	5320 MHz	17.75	24.00	Complies
100	5500 MHz	17.39	24.00	Complies
116	5580 MHz	18.98	24.00	Complies
140	5700 MHz	16.28	24.00	Complies
144	5720 MHz	19.56	24.00	Complies

Temperature	22°C	Humidity	55%
Test Engineer	Jim Huang	Configurations	IEEE 802.11a/n/ac
Test Date	Aug. 14, 2014		
Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)		

Configuration IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
52	5260 MHz	18.69	19.56	22.16	24.00	Complies
60	5300 MHz	18.73	19.05	21.90	24.00	Complies
64	5320 MHz	15.77	17.12	19.51	24.00	Complies
100	5500 MHz	15.12	17.01	19.18	24.00	Complies
116	5580 MHz	17.96	19.61	21.87	24.00	Complies
140	5700 MHz	14.13	15.72	18.01	24.00	Complies
144	5720 MHz	18.32	19.56	21.99	24.00	Complies

Configuration IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
54	5270 MHz	17.23	18.34	20.83	24.00	Complies
62	5310 MHz	11.63	13.25	15.53	24.00	Complies
102	5510 MHz	13.03	14.45	16.81	24.00	Complies
110	5550 MHz	15.67	17.49	19.68	24.00	Complies
134	5670 MHz	14.01	15.85	18.04	24.00	Complies
142	5710 MHz	17.26	18.41	20.88	24.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
52	5260 MHz	18.35	19.47	21.96	24.00	Complies
60	5300 MHz	18.74	19.06	21.91	24.00	Complies
64	5320 MHz	15.71	16.96	19.39	24.00	Complies
100	5500 MHz	15.01	16.85	19.04	24.00	Complies
116	5580 MHz	18.01	19.62	21.90	24.00	Complies
140	5700 MHz	14.09	15.72	17.99	24.00	Complies
144	5720 MHz	18.03	19.41	21.78	24.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
54	5270 MHz	17.21	18.34	20.82	24.00	Complies
62	5310 MHz	11.61	13.16	15.46	24.00	Complies
102	5510 MHz	13.02	14.47	16.82	24.00	Complies
110	5550 MHz	15.72	17.59	19.77	24.00	Complies
134	5670 MHz	14.16	16.01	18.19	24.00	Complies
142	5710 MHz	17.25	18.44	20.90	24.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
58	5290 MHz	9.42	11.29	13.47	24.00	Complies
106	5530 MHz	11.85	13.79	15.94	24.00	Complies
122	5610 MHz	16.45	18.41	20.55	24.00	Complies
138	5690 MHz	16.15	18.14	20.27	24.00	Complies

Configuration IEEE 802.11a / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
52	5260 MHz	18.35	19.55	22.00	24.00	Complies
60	5300 MHz	18.75	19.11	21.94	24.00	Complies
64	5320 MHz	15.71	17.08	19.46	24.00	Complies
100	5500 MHz	15.07	17.01	19.16	24.00	Complies
116	5580 MHz	17.98	19.69	21.93	24.00	Complies
140	5700 MHz	14.11	15.64	17.95	24.00	Complies
144	5720 MHz	17.96	19.52	21.82	24.00	Complies

<For Beamforming Mode>

Temperature	22°C	Humidity	55%
Test Engineer	Jim Huang	Configurations	IEEE 802.11a/ac
Test Date	Jul. 01, 2014		
Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)		

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
52	5260 MHz	17.13	18.12	20.66	21.99	Complies
60	5300 MHz	16.16	16.94	19.58	21.99	Complies
64	5320 MHz	15.33	16.11	18.75	21.99	Complies
100	5500 MHz	15.41	16.86	19.21	21.99	Complies
116	5580 MHz	12.96	14.10	16.58	21.99	Complies
140	5700 MHz	13.38	14.12	16.78	21.99	Complies
144	5720 MHz	18.45	19.35	21.93	21.99	Complies

Note: Directional gain=G_{ANT}+10log(N_{ANT}/Nss)=8.01dBi >6dBi,So Power Limit =24-(8.01-6)=21.99dBm

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
54	5270 MHz	16.82	18.04	20.48	21.99	Complies
62	5310 MHz	11.52	12.61	15.11	21.99	Complies
102	5510 MHz	11.86	12.81	15.37	21.99	Complies
110	5550 MHz	15.14	16.27	18.75	21.99	Complies
134	5670 MHz	14.64	15.35	18.02	21.99	Complies
142	5710 MHz	17.91	18.81	21.39	21.99	Complies

Note: Directional gain=G_{ANT}+10log(N_{ANT}/Nss)=8.01dBi >6dBi,So Power Limit =24-(8.01-6)=21.99dBm

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
58	5290 MHz	9.43	11.22	13.43	21.99	Complies
106	5530 MHz	9.44	10.91	13.25	21.99	Complies
122	5610 MHz	13.12	14.87	17.09	21.99	Complies
138	5690 MHz	17.26	18.58	20.98	21.99	Complies

Note: Directional gain=G_{ANT}+10log(N_{ANT}/Nss)=8.01dBi >6dBi,So Power Limit =24-(8.01-6)=21.99dBm

Configuration IEEE 802.11a / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
52	5260 MHz	17.06	18.27	20.72	21.99	Complies
60	5300 MHz	16.18	16.91	19.57	21.99	Complies
64	5320 MHz	15.26	16.18	18.75	21.99	Complies
100	5500 MHz	15.58	16.75	19.21	21.99	Complies
116	5580 MHz	13.06	14.05	16.59	21.99	Complies
140	5700 MHz	13.61	14.25	16.95	21.99	Complies
144	5720 MHz	18.43	19.32	21.91	21.99	Complies

Note: Directional gain=G_{ANT}+10log(N_{ANT}/Nss)=8.01dBi >6dBi,So Power Limit =24-(8.01-6)=21.99dBm

Temperature	22°C	Humidity	55%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11a/ac
Test Date	Aug. 14, 2014		
Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)		

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
52	5260 MHz	18.01	19.31	21.72	21.89	Complies
60	5300 MHz	15.76	17.12	19.50	21.89	Complies
64	5320 MHz	14.14	15.76	18.04	21.89	Complies
100	5500 MHz	14.18	15.85	18.11	21.89	Complies
116	5580 MHz	17.12	19.01	21.18	21.89	Complies
140	5700 MHz	12.73	14.55	16.74	21.89	Complies
144	5720 MHz	18.03	19.41	21.78	21.89	Complies

Note: Directional gain=G_{ANT}+10log(N_{ANT}/Nss)=8.11dBi >6dBi,So Power Limit =24-(8.11-6)=21.89dBm

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
54	5270 MHz	15.86	17.44	19.73	21.89	Complies
62	5310 MHz	10.11	11.85	14.08	21.89	Complies
102	5510 MHz	11.58	13.01	15.36	21.89	Complies
110	5550 MHz	13.92	15.68	17.90	21.89	Complies
134	5670 MHz	13.31	15.06	17.28	21.89	Complies
142	5710 MHz	17.25	18.44	20.90	21.89	Complies

Note: Directional gain=G_{ANT}+10log(N_{ANT}/Nss)=8.11dBi >6dBi,So Power Limit =24-(8.11-6)=21.89dBm

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
58	5290 MHz	7.22	9.13	11.29	21.89	Complies
106	5530 MHz	9.42	11.41	13.54	21.89	Complies
122	5610 MHz	15.18	17.35	19.41	21.89	Complies
138	5690 MHz	15.18	17.05	19.23	21.89	Complies

Note: Directional gain=G_{ANT}+10log(N_{ANT}/Nss)=8.11dBi >6dBi,So Power Limit =24-(8.11-6)=21.89dBm

Configuration IEEE 802.11a / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
52	5260 MHz	17.91	19.45	21.76	21.89	Complies
60	5300 MHz	15.72	17.16	19.51	21.89	Complies
64	5320 MHz	14.21	15.79	18.08	21.89	Complies
100	5500 MHz	14.31	15.96	18.22	21.89	Complies
116	5580 MHz	17.15	19.02	21.20	21.89	Complies
140	5700 MHz	12.78	14.62	16.81	21.89	Complies
144	5720 MHz	17.96	19.52	21.82	21.89	Complies

Note: Directional gain=G_{ANT}+10log(N_{ANT}/Nss)=8.11dBi >6dBi,So Power Limit =24-(8.11-6)=21.89dBm

<For STBC Mode>

Temperature	22°C	Humidity	55%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac
Test Date	Aug. 14, 2014		
Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)		

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
52	5260 MHz	18.46	19.34	21.93	24.00	Complies
60	5300 MHz	18.93	19.52	22.25	24.00	Complies
64	5320 MHz	16.71	17.41	20.08	24.00	Complies
100	5500 MHz	15.38	16.78	19.15	24.00	Complies
116	5580 MHz	16.01	17.42	19.78	24.00	Complies
140	5700 MHz	15.71	16.85	19.33	24.00	Complies
144	5720 MHz	19.89	20.86	23.41	24.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
54	5270 MHz	17.05	18.23	20.69	24.00	Complies
62	5310 MHz	12.59	13.56	16.11	24.00	Complies
102	5510 MHz	13.32	14.25	16.82	24.00	Complies
110	5550 MHz	16.95	18.01	20.52	24.00	Complies
134	5670 MHz	15.69	16.67	19.22	24.00	Complies
142	5710 MHz	17.81	18.75	21.32	24.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
58	5290 MHz	11.61	13.31	15.55	24.00	Complies
106	5530 MHz	12.06	13.61	15.91	24.00	Complies
122	5610 MHz	15.55	17.11	19.41	24.00	Complies
138	5690 MHz	18.21	19.68	22.02	24.00	Complies

Temperature	22°C	Humidity	55%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac
Test Date	Aug. 14, 2014		
Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)		

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
52	5260 MHz	19.15	19.72	22.45	24.00	Complies
60	5300 MHz	19.34	19.89	22.63	24.00	Complies
64	5320 MHz	15.79	17.09	19.50	24.00	Complies
100	5500 MHz	16.18	17.95	20.16	24.00	Complies
116	5580 MHz	18.29	19.53	21.96	24.00	Complies
140	5700 MHz	12.77	14.55	16.76	24.00	Complies
144	5720 MHz	19.42	20.02	22.74	24.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
54	5270 MHz	17.36	18.38	20.91	24.00	Complies
62	5310 MHz	12.01	13.74	15.97	24.00	Complies
102	5510 MHz	13.85	15.61	17.83	24.00	Complies
110	5550 MHz	16.72	18.69	20.83	24.00	Complies
134	5670 MHz	14.65	16.37	18.60	24.00	Complies
142	5710 MHz	17.21	18.38	20.84	24.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
58	5290 MHz	11.01	12.98	15.12	24.00	Complies
106	5530 MHz	12.12	14.02	16.18	24.00	Complies
122	5610 MHz	16.91	18.74	20.93	24.00	Complies
138	5690 MHz	17.26	18.85	21.14	24.00	Complies

4.4. Power Spectral Density Measurement

4.4.1. Limit

The power spectral density is defined as the highest level of power in dBm per MHz generated by the transmitter within the power envelope. The following table is power spectral density limits and decrease power density limit rule refer to section 4.3.1.

Frequency Range	Power Spectral Density limit (dBm/MHz)
5.25-5.35 GHz	11
5.470-5.725 GHz	11

4.4.2. Measuring Instruments and Setting

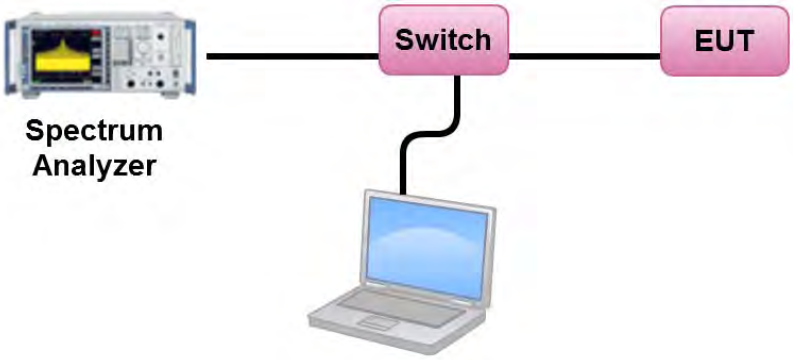
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RBW	1000 kHz
VBW	3000 kHz
Detector	RMS
Trace	AVERAGE
Sweep Time	Auto
Trace Average	100 times

4.4.3. Test Procedures

1. The transmitter output (antenna port) was connected RF switch to the spectrum analyzer.
2. Test was performed in accordance with KDB789033 D02 v01 for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - section (F) Maximum Power Spectral Density (PSD).
3. Multiple antenna systems was performed in accordance KDB662911 D01 v02r01 in-Band Power Spectral Density (PSD) Measurements (a) Measure and sum the spectra across the outputs.
4. When measuring first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3 and so on up to the Nth output to obtain the value for the first frequency bin of the summed spectrum. The summed spectrum value for each of the other frequency bins is computed in the same way.

4.4.4. Test Setup Layout



4.4.5. Test Deviation

There is no deviation with the original standard.

4.4.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.4.7. Test Result of Power Spectral Density

<For Non-Beamforming Mode>

Temperature	22°C	Humidity	55%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac
Test Date	Jul. 01, 2014		
Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)		

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
52	5260 MHz	7.52	11.00	Complies
60	5300 MHz	6.43	11.00	Complies
64	5320 MHz	3.71	11.00	Complies
100	5500 MHz	3.39	11.00	Complies
116	5580 MHz	5.51	11.00	Complies
140	5700 MHz	0.27	11.00	Complies
144	5720 MHz	7.62	11.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
54	5270 MHz	2.71	11.00	Complies
62	5310 MHz	-3.05	11.00	Complies
102	5510 MHz	-1.92	11.00	Complies
110	5550 MHz	2.92	11.00	Complies
134	5670 MHz	-0.01	11.00	Complies
142	5710 MHz	4.46	11.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
58	5290 MHz	-6.48	11.00	Complies
106	5530 MHz	-3.61	11.00	Complies
122	5610 MHz	-1.99	11.00	Complies
138	5690 MHz	-0.46	11.00	Complies

Temperature	22°C	Humidity	55%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac
Test Date	Jul. 01, 2014		
Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)		

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
52	5260 MHz	8.81	8.99	Complies
60	5300 MHz	8.87	8.99	Complies
64	5320 MHz	6.88	8.99	Complies
100	5500 MHz	6.27	8.99	Complies
116	5580 MHz	8.48	8.99	Complies
140	5700 MHz	3.24	8.99	Complies
144	5720 MHz	8.96	8.99	Complies

Note: Directional gain=G_{ANT}+10log(N_{ANT}/Nss)=8.01dBi >6dBi,So Band2 Limit =11-(8.01-6)=8.99dBm/MHz
=8.01dBi >6dBi,So Band3 Limit =11-(8.01-6)=8.99dBm/MHz

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
54	5270 MHz	5.26	8.99	Complies
62	5310 MHz	-0.40	8.99	Complies
102	5510 MHz	0.80	8.99	Complies
110	5550 MHz	4.73	8.99	Complies
134	5670 MHz	2.34	8.99	Complies
142	5710 MHz	7.34	8.99	Complies

Note: Directional gain=G_{ANT}+10log(N_{ANT}/Nss)=8.01dBi >6dBi,So Band2 Limit =11-(8.01-6)=8.99dBm/MHz
=8.01dBi >6dBi,So Band3 Limit =11-(8.01-6)=8.99dBm/MHz

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
58	5290 MHz	-3.65	8.99	Complies
106	5530 MHz	-2.60	8.99	Complies
122	5610 MHz	-0.09	8.99	Complies
138	5690 MHz	2.69	8.99	Complies

Note: Directional gain=G_{ANT}+10log(N_{ANT}/Nss)=8.01dBi >6dBi,So Band2 Limit =11-(8.01-6)=8.99dBm/MHz
=8.01dBi >6dBi,So Band3 Limit =11-(8.01-6)=8.99dBm/MHz

Temperature	22°C	Humidity	55%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11ac
Test Date	Jun. 30, 2014		
Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)		

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
52	5260 MHz	8.47	11.00	Complies
60	5300 MHz	8.22	11.00	Complies
64	5320 MHz	4.53	11.00	Complies
100	5500 MHz	3.44	11.00	Complies
116	5580 MHz	8.83	11.00	Complies
140	5700 MHz	3.28	11.00	Complies
144	5720 MHz	8.69	11.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
54	5270 MHz	4.82	11.00	Complies
62	5310 MHz	-1.56	11.00	Complies
102	5510 MHz	-0.55	11.00	Complies
110	5550 MHz	3.34	11.00	Complies
134	5670 MHz	-0.57	11.00	Complies
142	5710 MHz	5.26	11.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
58	5290 MHz	-5.80	11.00	Complies
106	5530 MHz	-3.88	11.00	Complies
122	5610 MHz	-1.40	11.00	Complies
138	5690 MHz	-1.52	11.00	Complies

Temperature	22°C	Humidity	55%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac
Test Date	Jun. 30, 2014		
Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)		

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
52	5260 MHz	8.65	8.89	Complies
60	5300 MHz	8.42	8.89	Complies
64	5320 MHz	5.59	8.89	Complies
100	5500 MHz	5.70	8.89	Complies
116	5580 MHz	8.54	8.89	Complies
140	5700 MHz	4.85	8.89	Complies
144	5720 MHz	8.68	8.89	Complies

Note: Directional gain=G_{ANT}+10log(N_{ANT}/Nss)=8.11dBi >6dBi,So Band2 Limit =11-(8.11-6)=8.89dBm/MHz
=8.11dBi >6dBi,So Band3 Limit =11-(8.11-6)=8.89dBm/MHz

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
54	5270 MHz	5.58	8.89	Complies
62	5310 MHz	-0.61	8.89	Complies
102	5510 MHz	1.05	8.89	Complies
110	5550 MHz	4.17	8.89	Complies
134	5670 MHz	2.32	8.89	Complies
142	5710 MHz	7.53	8.89	Complies

Note: Directional gain=G_{ANT}+10log(N_{ANT}/Nss)=8.11dBi >6dBi,So Band2 Limit =11-(8.11-6)=8.89dBm/MHz
=8.11dBi >6dBi,So Band3 Limit =11-(8.11-6)=8.89dBm/MHz

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
58	5290 MHz	-5.23	8.89	Complies
106	5530 MHz	-2.74	8.89	Complies
122	5610 MHz	2.00	8.89	Complies
138	5690 MHz	1.08	8.89	Complies

Note: Directional gain=G_{ANT}+10log(N_{ANT}/Nss)=8.11dBi >6dBi,So Band2 Limit =11-(8.11-6)=8.89dBm/MHz
=8.11dBi >6dBi,So Band3 Limit =11-(8.11-6)=8.89dBm/MHz

<For Beamforming Mode>

Temperature	22°C	Humidity	55%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac
Test Date	Jul. 01, 2014		
Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)		

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
52	5260 MHz	7.51	8.99	Complies
60	5300 MHz	6.52	8.99	Complies
64	5320 MHz	5.44	8.99	Complies
100	5500 MHz	6.21	8.99	Complies
116	5580 MHz	3.82	8.99	Complies
140	5700 MHz	3.27	8.99	Complies
144	5720 MHz	8.52	8.99	Complies

Note: Directional gain=G_{ANT}+10log(N_{ANT}/Nss)=8.01dBi >6dBi,So Band2 Limit =11-(8.01-6)=8.99dBm/MHz
=8.01dBi >6dBi,So Band3 Limit =11-(8.01-6)=8.99dBm/MHz

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
54	5270 MHz	4.43	8.99	Complies
62	5310 MHz	-0.93	8.99	Complies
102	5510 MHz	-0.65	8.99	Complies
110	5550 MHz	3.02	8.99	Complies
134	5670 MHz	1.32	8.99	Complies
142	5710 MHz	5.61	8.99	Complies

Note: Directional gain=G_{ANT}+10log(N_{ANT}/Nss)=8.01dBi >6dBi,So Band2 Limit =11-(8.01-6)=8.99dBm/MHz
=8.01dBi >6dBi,So Band3 Limit =11-(8.01-6)=8.99dBm/MHz

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
58	5290 MHz	-5.10	8.99	Complies
106	5530 MHz	-5.35	8.99	Complies
122	5610 MHz	-1.45	8.99	Complies
138	5690 MHz	1.92	8.99	Complies

Note: Directional gain=G_{ANT}+10log(N_{ANT}/Nss)=8.01dBi >6dBi,So Band2 Limit =11-(8.01-6)=8.99dBm/MHz
=8.01dBi >6dBi,So Band3 Limit =11-(8.01-6)=8.99dBm/MHz

Temperature	22°C	Humidity	55%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11ac
Test Date	Jun. 30, 2014		
Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)		

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
52	5260 MHz	8.13	8.89	Complies
60	5300 MHz	5.91	8.89	Complies
64	5320 MHz	4.66	8.89	Complies
100	5500 MHz	4.75	8.89	Complies
116	5580 MHz	7.63	8.89	Complies
140	5700 MHz	3.09	8.89	Complies
144	5720 MHz	8.14	8.89	Complies

Note: Directional gain=G_{ANT}+10log(N_{ANT}/Nss)=8.11dBi >6dBi,So Band2 Limit =11-(8.11-6)=8.89dBm/MHz
=8.11dBi >6dBi,So Band3 Limit =11-(8.11-6)=8.89dBm/MHz

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
54	5270 MHz	3.35	8.89	Complies
62	5310 MHz	-2.57	8.89	Complies
102	5510 MHz	-0.65	8.89	Complies
110	5550 MHz	2.07	8.89	Complies
134	5670 MHz	1.20	8.89	Complies
142	5710 MHz	5.30	8.89	Complies

Note: Directional gain=G_{ANT}+10log(N_{ANT}/Nss)=8.11dBi >6dBi,So Band2 Limit =11-(8.11-6)=8.89dBm/MHz
=8.11dBi >6dBi,So Band3 Limit =11-(8.11-6)=8.89dBm/MHz

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
58	5290 MHz	-7.94	8.89	Complies
106	5530 MHz	-5.59	8.89	Complies
122	5610 MHz	0.93	8.89	Complies
138	5690 MHz	-0.18	8.89	Complies

Note: Directional gain=G_{ANT}+10log(N_{ANT}/Nss)=8.11dBi >6dBi,So Band2 Limit =11-(8.11-6)=8.89dBm/MHz

=8.11dBi >6dBi,So Band3 Limit =11-(8.11-6)=8.89dBm/MHz

<For STBC Mode>

Temperature	22°C	Humidity	55%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac
Test Date	Jul. 01, 2014		
Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)		

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
52	5260 MHz	9.69	11.00	Complies
60	5300 MHz	9.77	11.00	Complies
64	5320 MHz	6.78	11.00	Complies
100	5500 MHz	6.11	11.00	Complies
116	5580 MHz	6.81	11.00	Complies
140	5700 MHz	5.58	11.00	Complies
144	5720 MHz	9.73	11.00	Complies

Note: Directional gain=G_{ANT}+10log(N_{ANT}/Nss) =5dBi <6dBi, so the limit doesn't reduce.

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
54	5270 MHz	5.82	11.00	Complies
62	5310 MHz	0.17	11.00	Complies
102	5510 MHz	0.82	11.00	Complies
110	5550 MHz	4.61	11.00	Complies
134	5670 MHz	2.83	11.00	Complies
142	5710 MHz	7.31	11.00	Complies

Note: Directional gain=G_{ANT}+10log(N_{ANT}/Nss) =5dBi <6dBi, so the limit doesn't reduce.

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
58	5290 MHz	-3.13	11.00	Complies
106	5530 MHz	-2.79	11.00	Complies
122	5610 MHz	0.69	11.00	Complies
138	5690 MHz	2.62	11.00	Complies

Note: Directional gain=G_{ANT}+10log(N_{ANT}/Nss) =5dBi <6dBi, so the limit doesn't reduce.

Temperature	22°C	Humidity	55%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac
Test Date	Jun. 30, 2014		
Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)		

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
52	5260 MHz	10.23	11.00	Complies
60	5300 MHz	9.74	11.00	Complies
64	5320 MHz	6.12	11.00	Complies
100	5500 MHz	7.36	11.00	Complies
116	5580 MHz	10.63	11.00	Complies
140	5700 MHz	3.22	11.00	Complies
144	5720 MHz	9.98	11.00	Complies

Note: Directional gain=G_{ANT}+10log(N_{ANT}/Nss) =5.1dBi <6dBi, so the limit doesn't reduce.

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
54	5270 MHz	6.79	11.00	Complies
62	5310 MHz	0.36	11.00	Complies
102	5510 MHz	2.48	11.00	Complies
110	5550 MHz	5.80	11.00	Complies
134	5670 MHz	2.30	11.00	Complies
142	5710 MHz	7.03	11.00	Complies

Note: Directional gain=G_{ANT}+10log(N_{ANT}/Nss) =5.1dBi <6dBi, so the limit doesn't reduce.

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
58	5290 MHz	-2.88	11.00	Complies
106	5530 MHz	-1.58	11.00	Complies
122	5610 MHz	2.38	11.00	Complies
138	5690 MHz	2.39	11.00	Complies

Note: Directional gain=$G_{ANT}+10\log(N_{ANT}/Nss)$ =5.1dBi <6dBi, so the limit doesn't reduce.

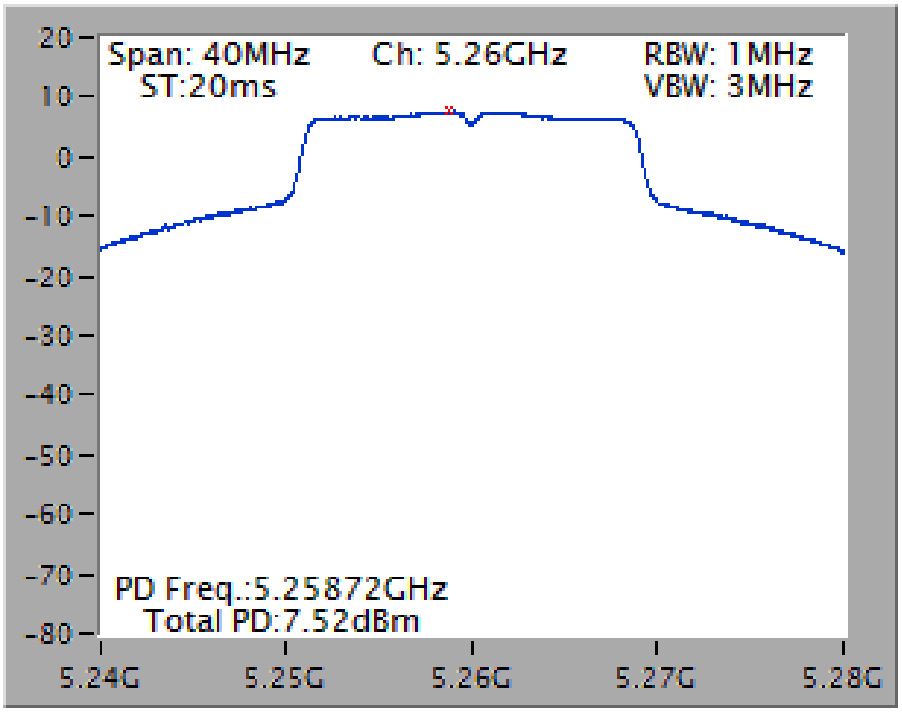
Note: All the test values were listed in the report.

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

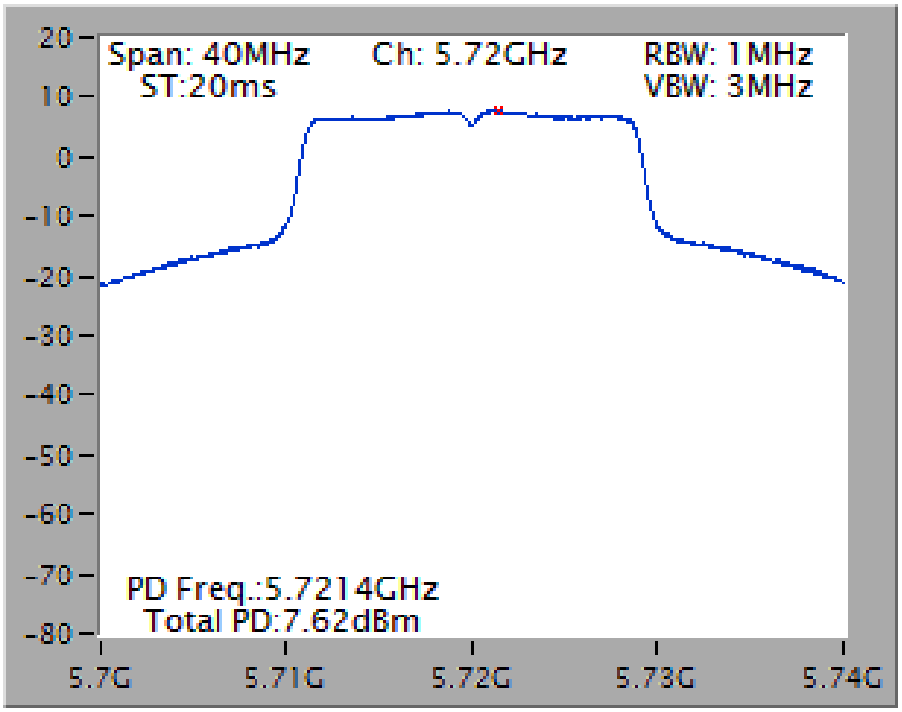
<For Non-Beamforming Mode>

Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

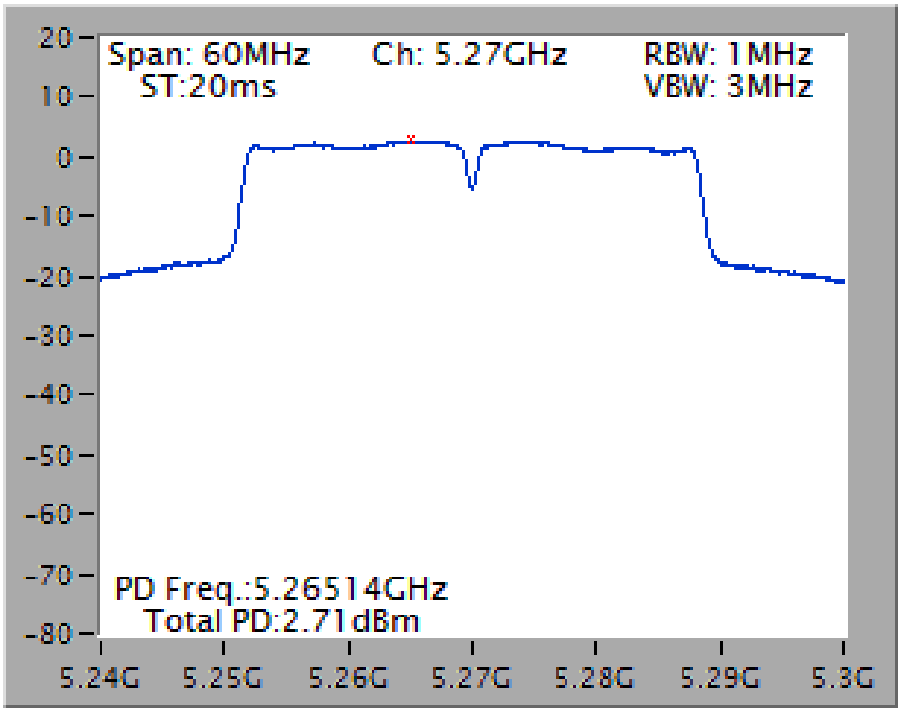
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2 / 5260 MHz



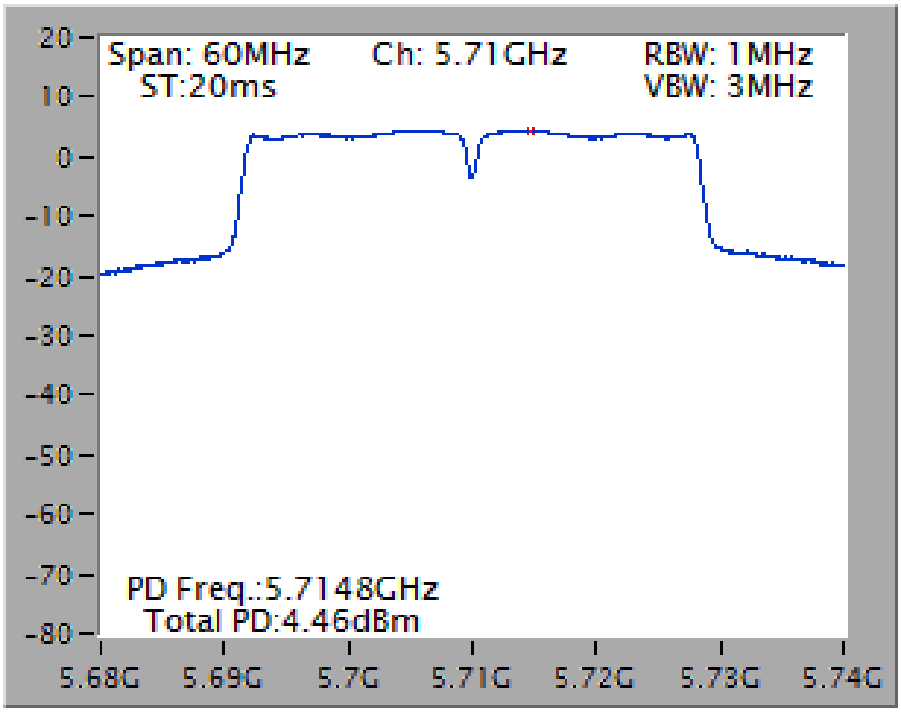
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2 / 5720 MHz



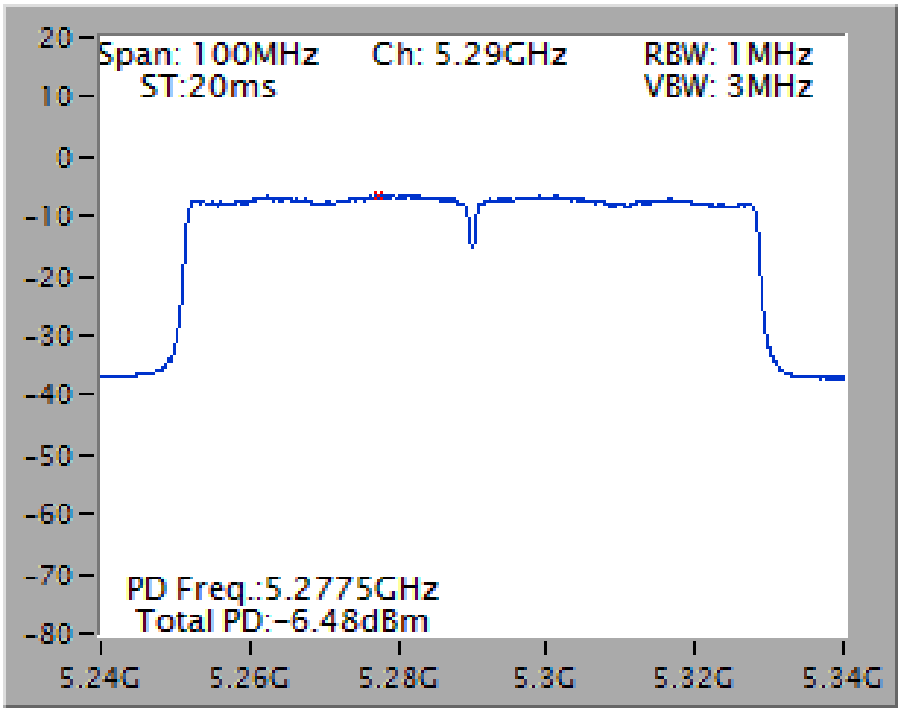
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2 / 5270 MHz



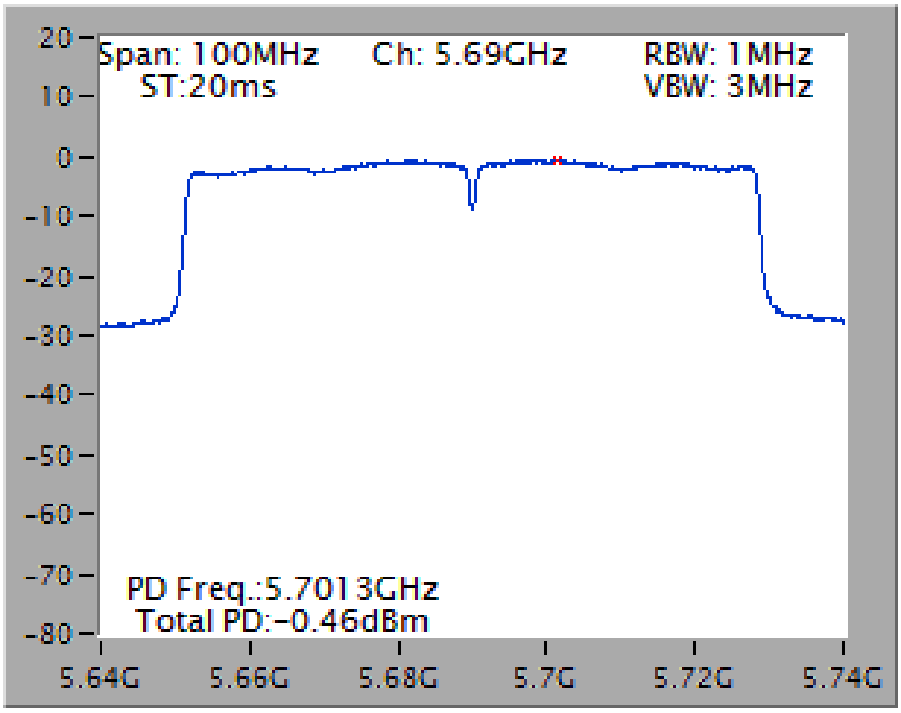
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2 / 5710 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2 / 5290 MHz

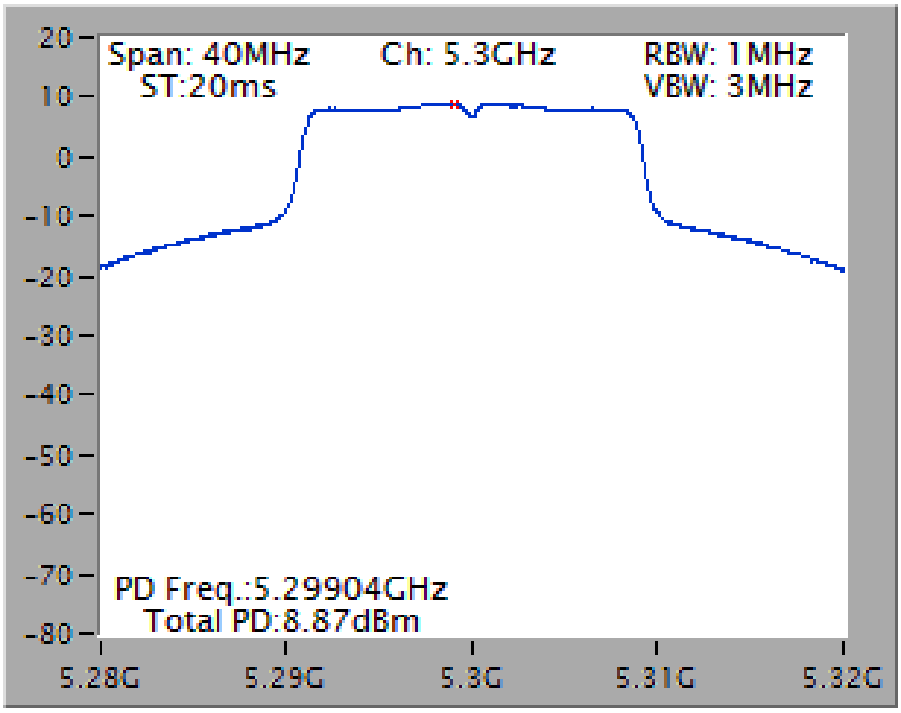


Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2 / 5690 MHz

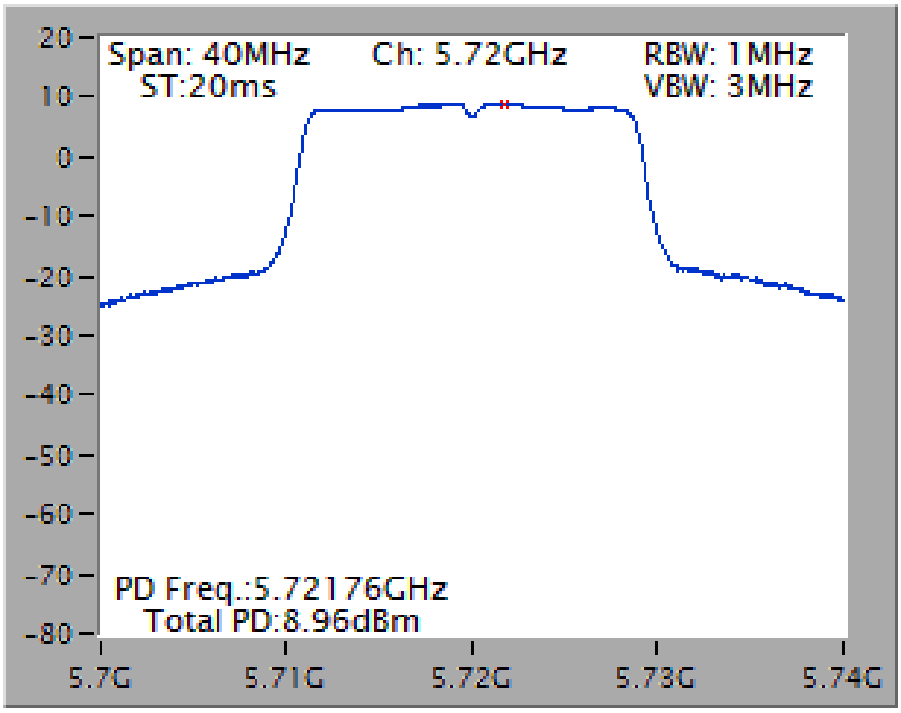


Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

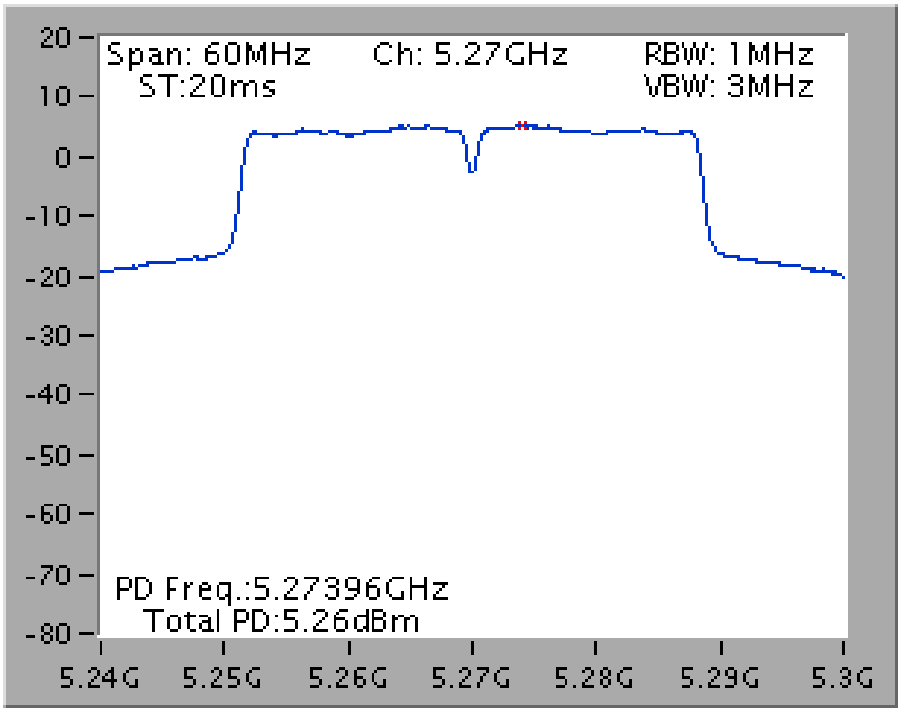
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 / 5300 MHz



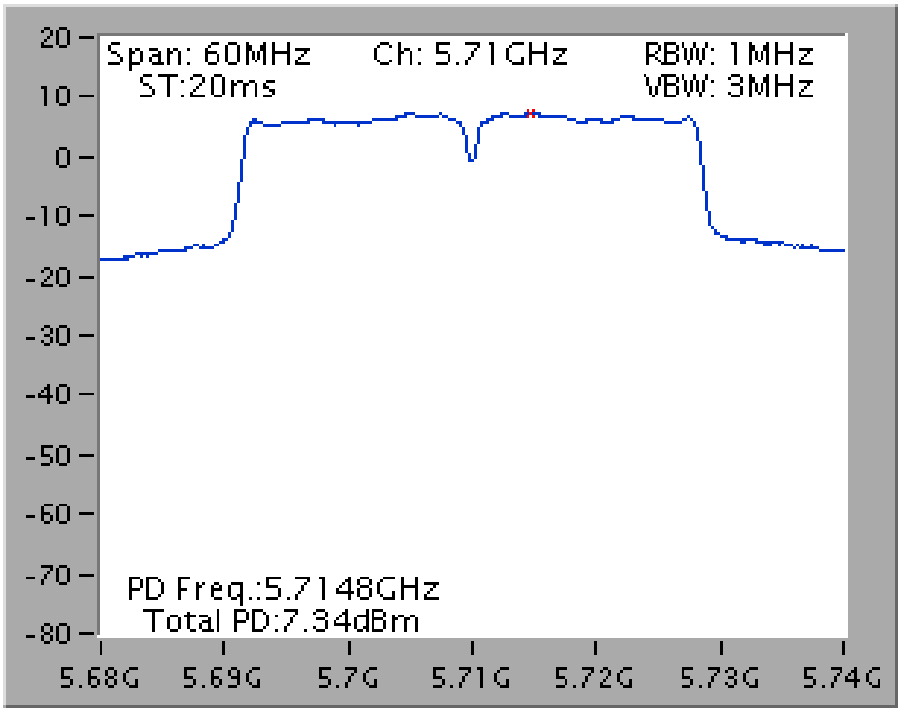
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 / 5720 MHz



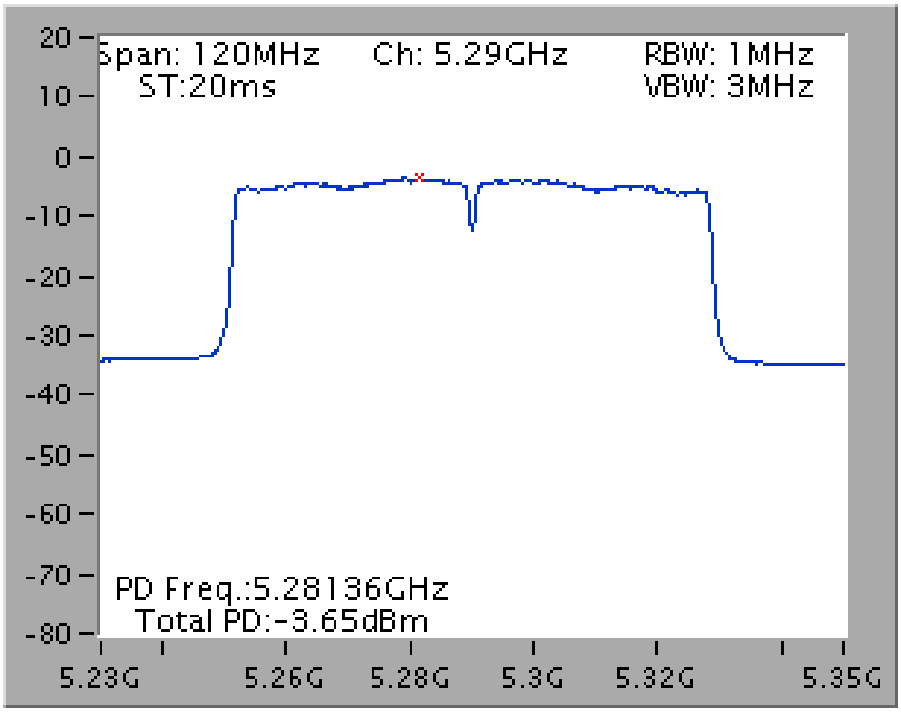
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 / 5270 MHz



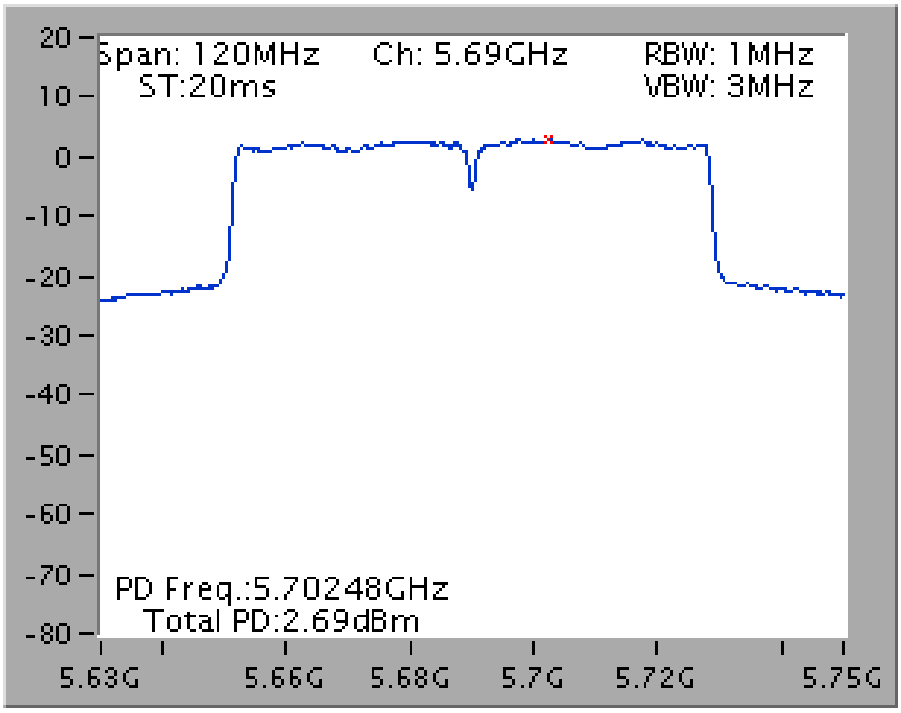
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 / 5710 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 / 5290 MHz

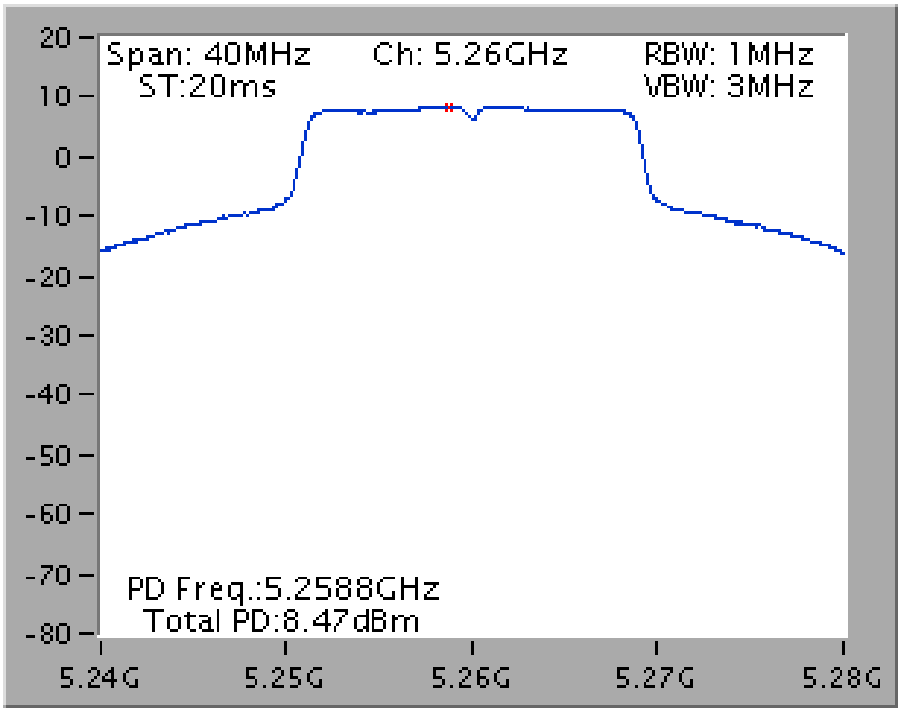


Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 / 5690 MHz

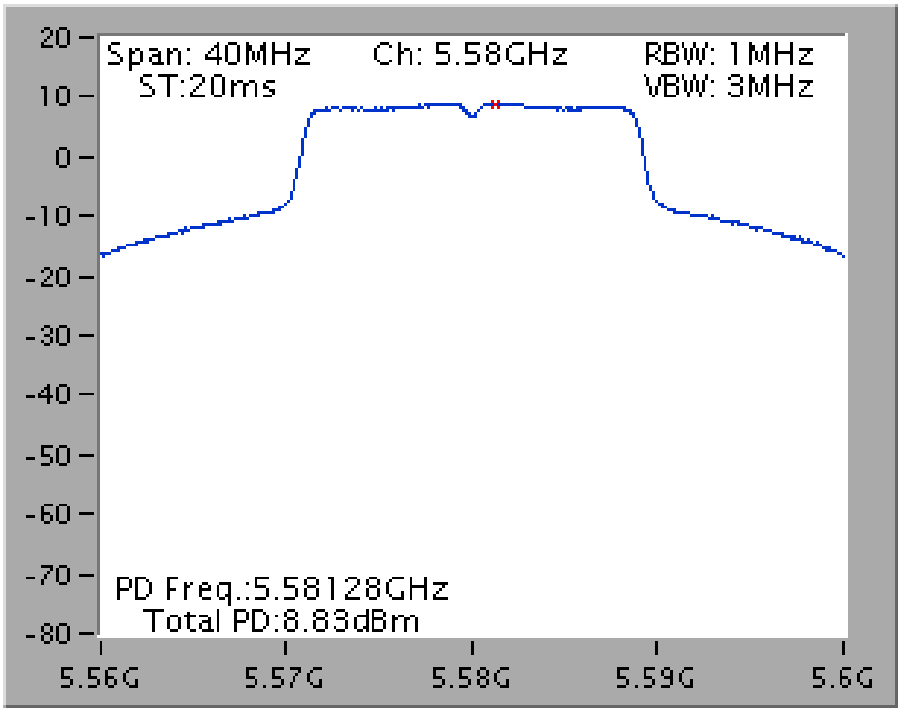


Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

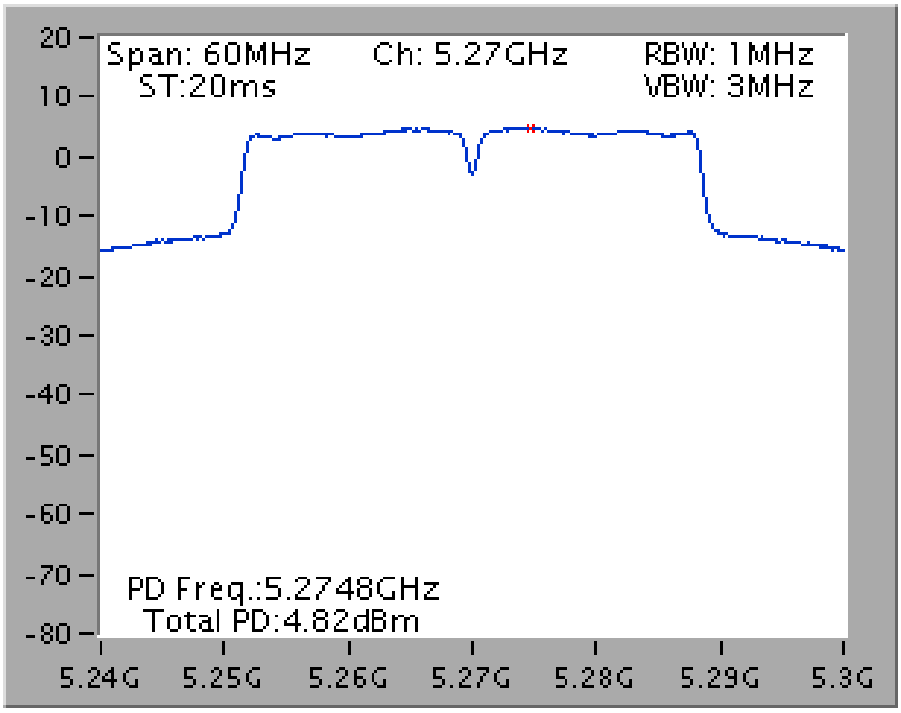
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2 / 5260 MHz



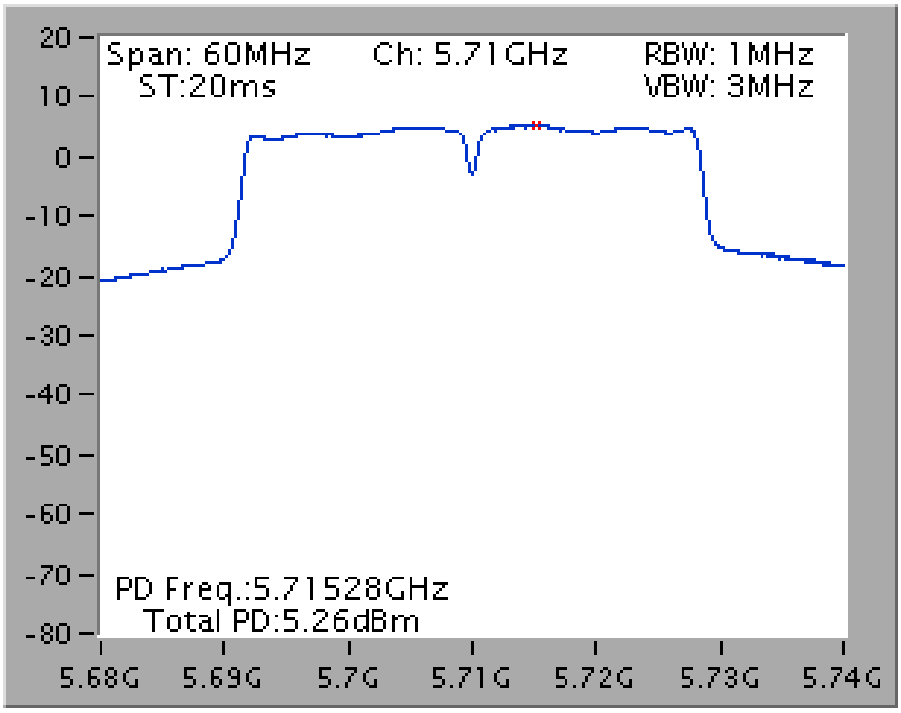
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2 / 5580 MHz



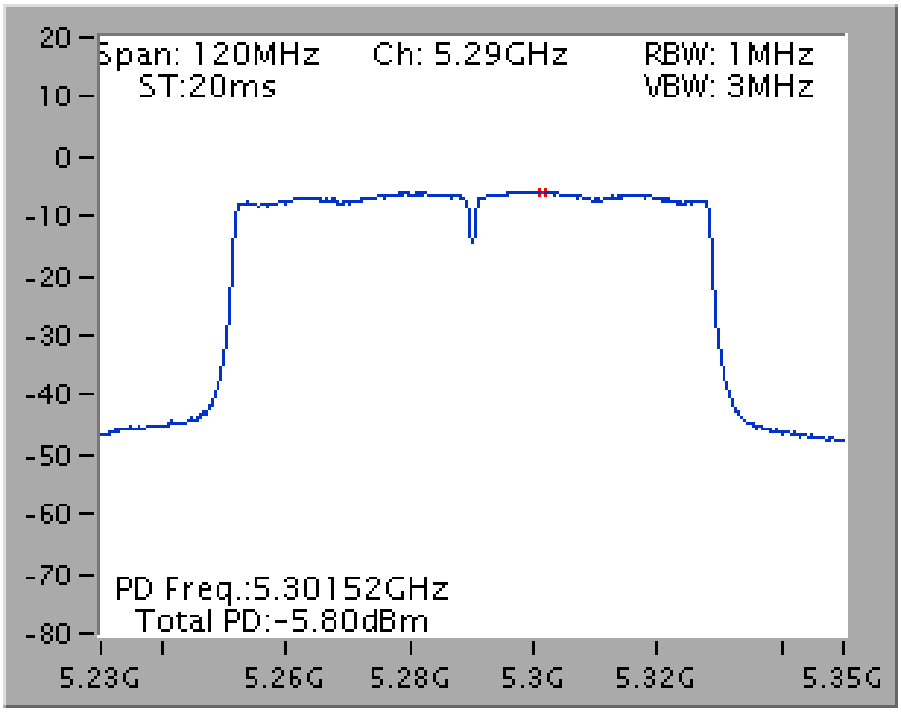
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2 / 5270 MHz



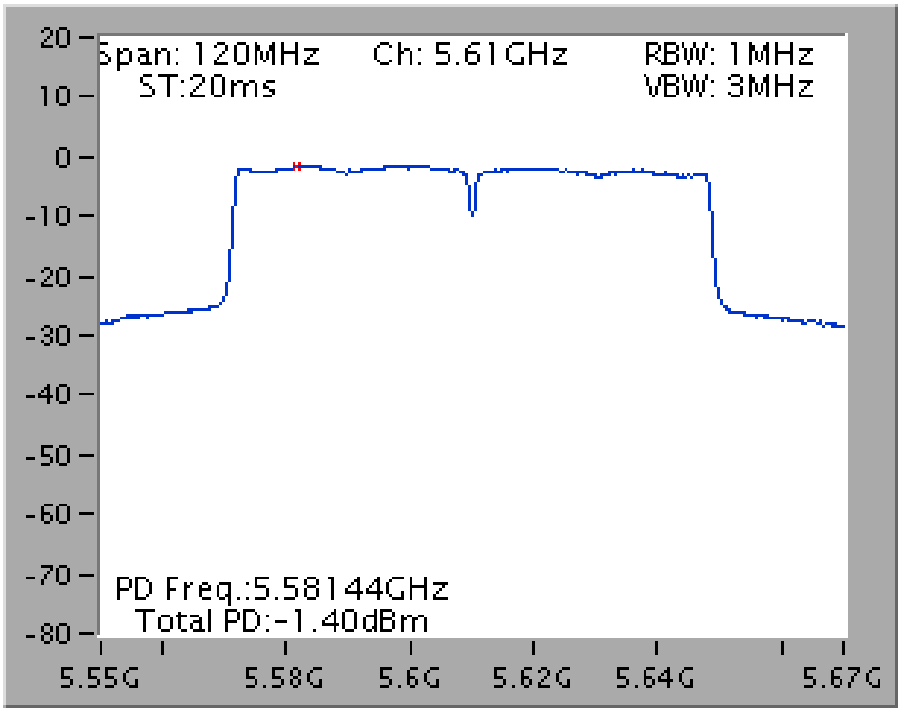
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2 / 5710 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2 / 5290 MHz

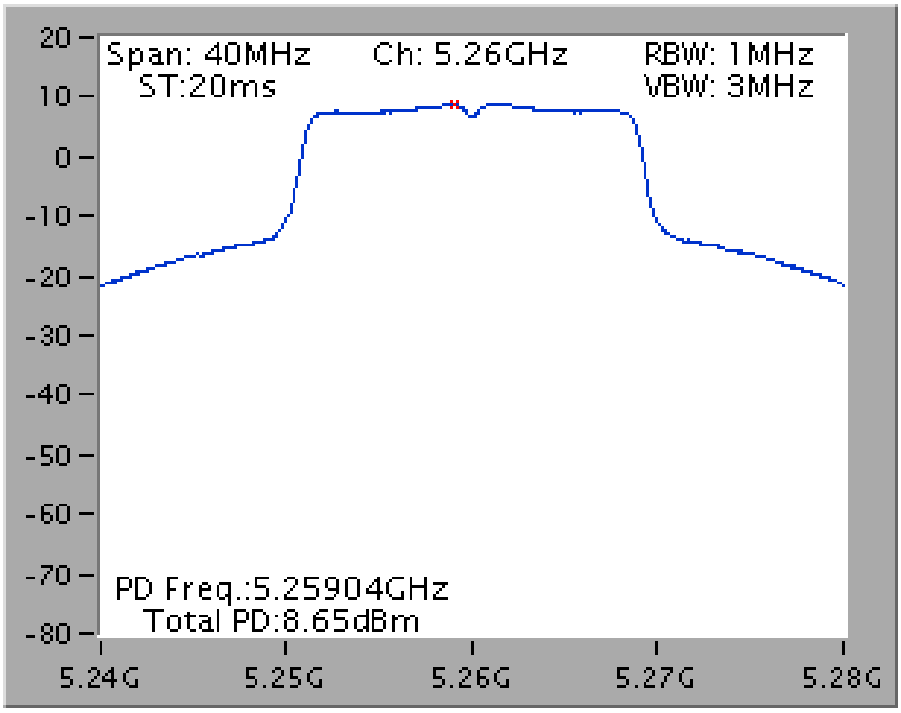


Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2 / 5610 MHz

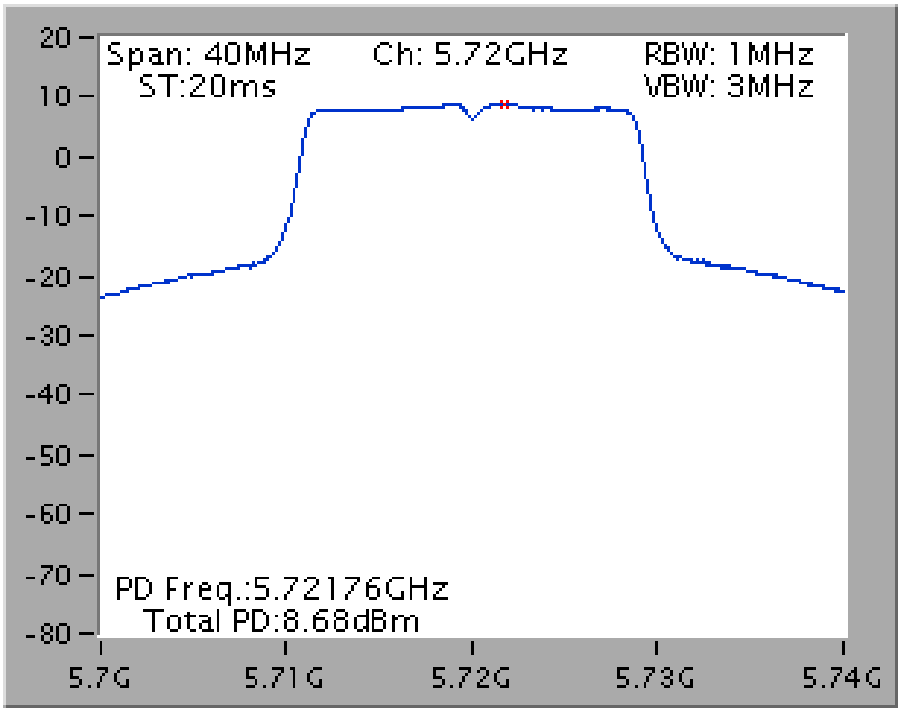


Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

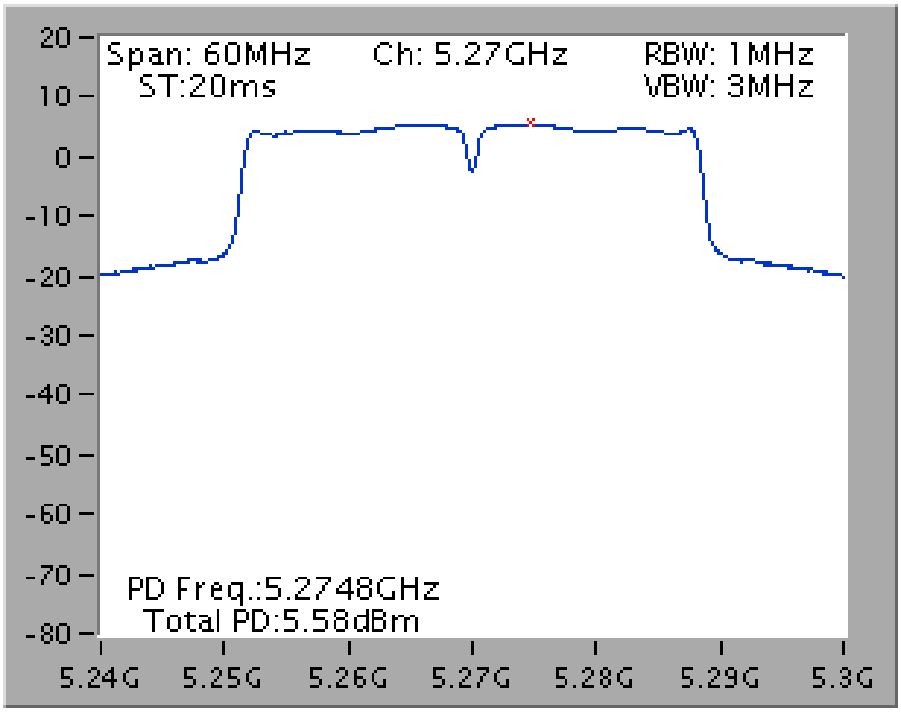
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 / 5260 MHz



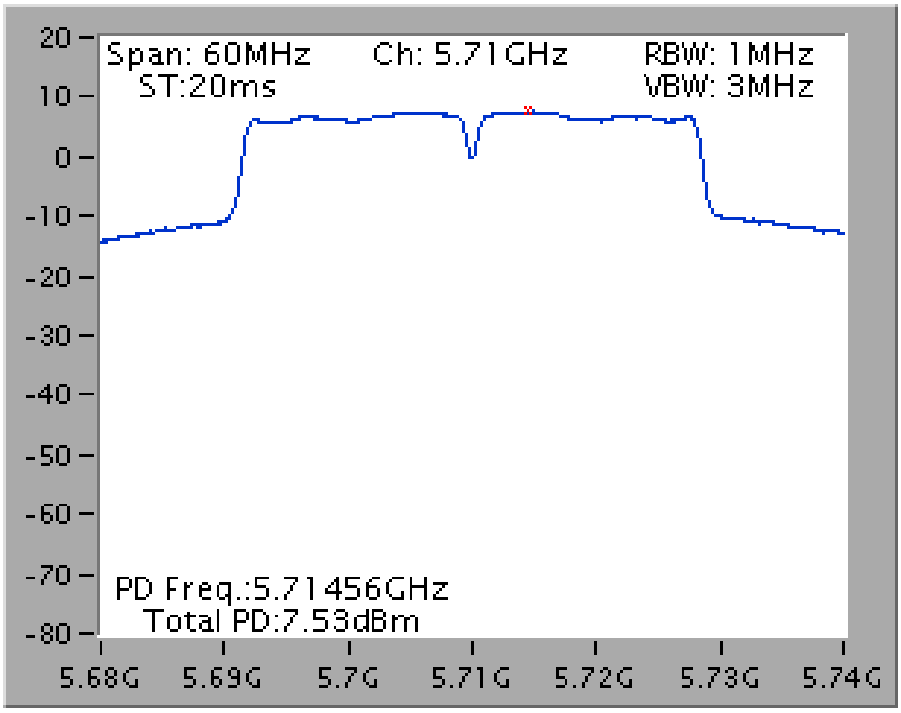
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 / 5720 MHz



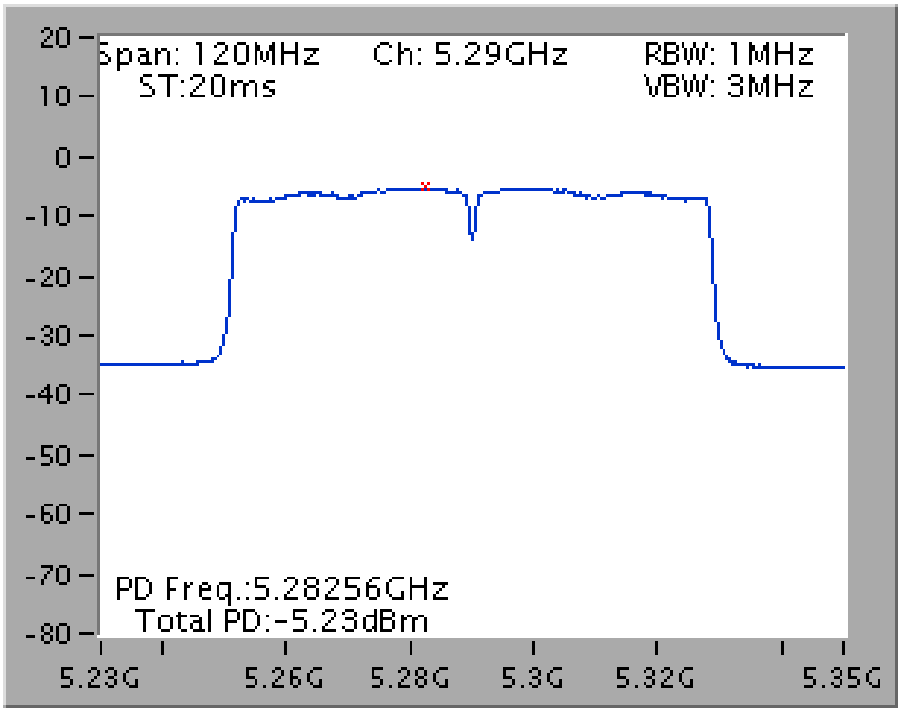
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 / 5270 MHz



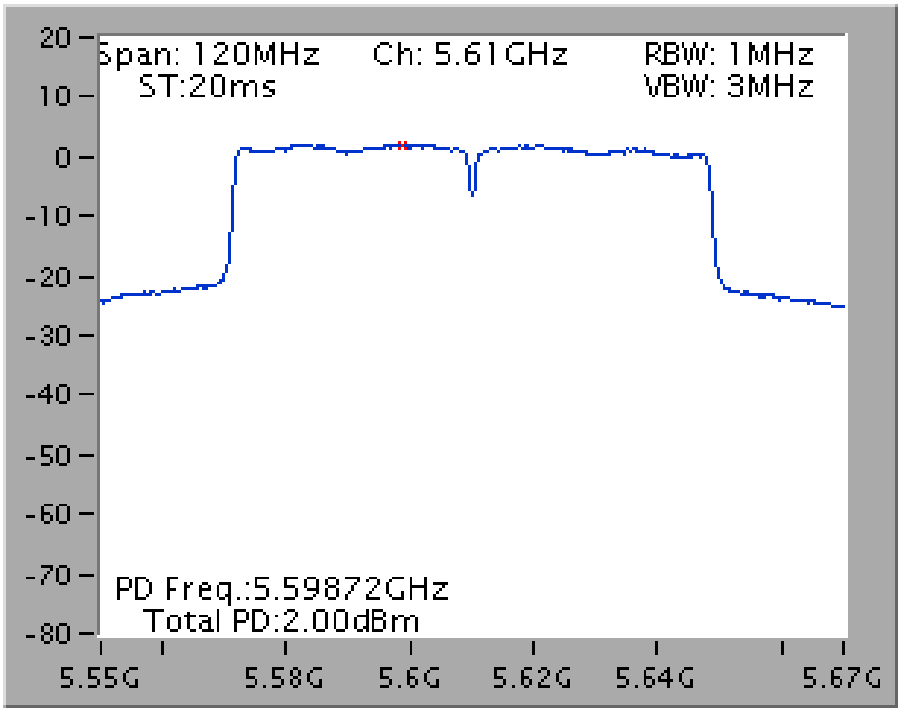
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 / 5710 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 / 5290 MHz



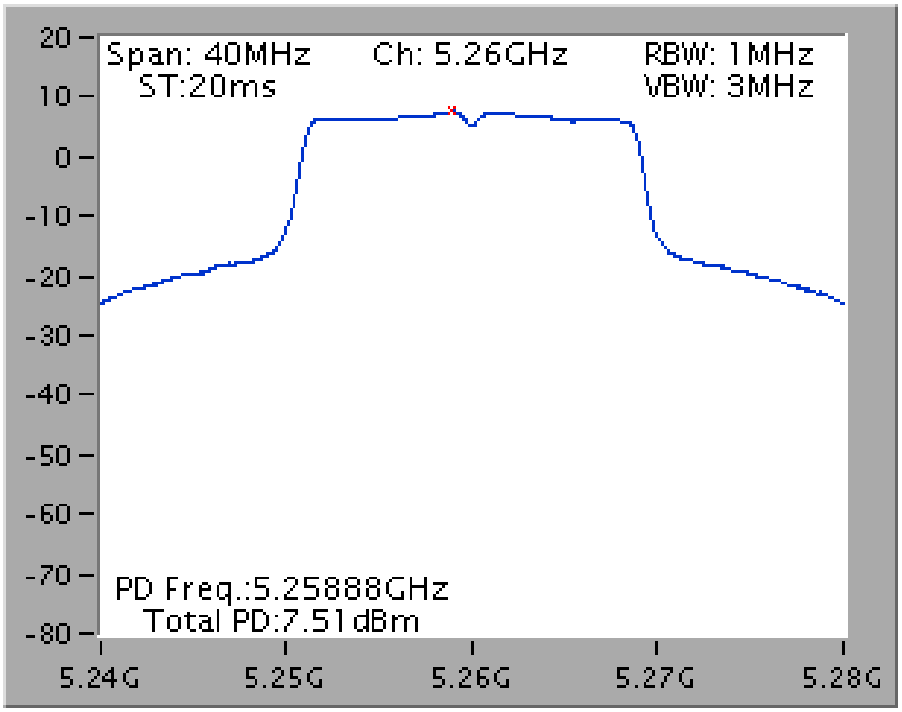
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 / 5610 MHz



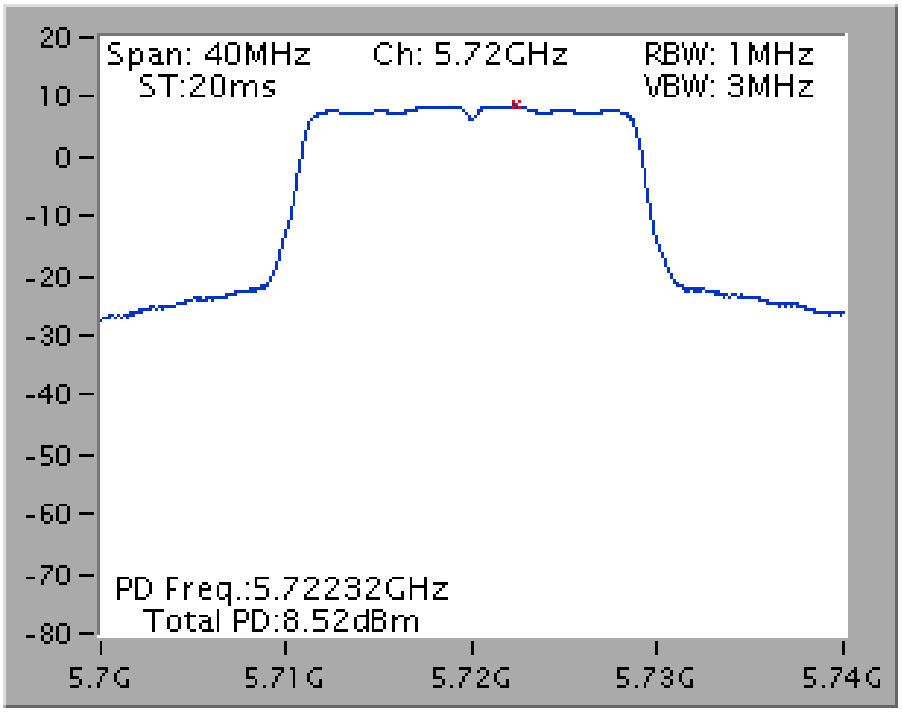
<For Beamforming Mode>

Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

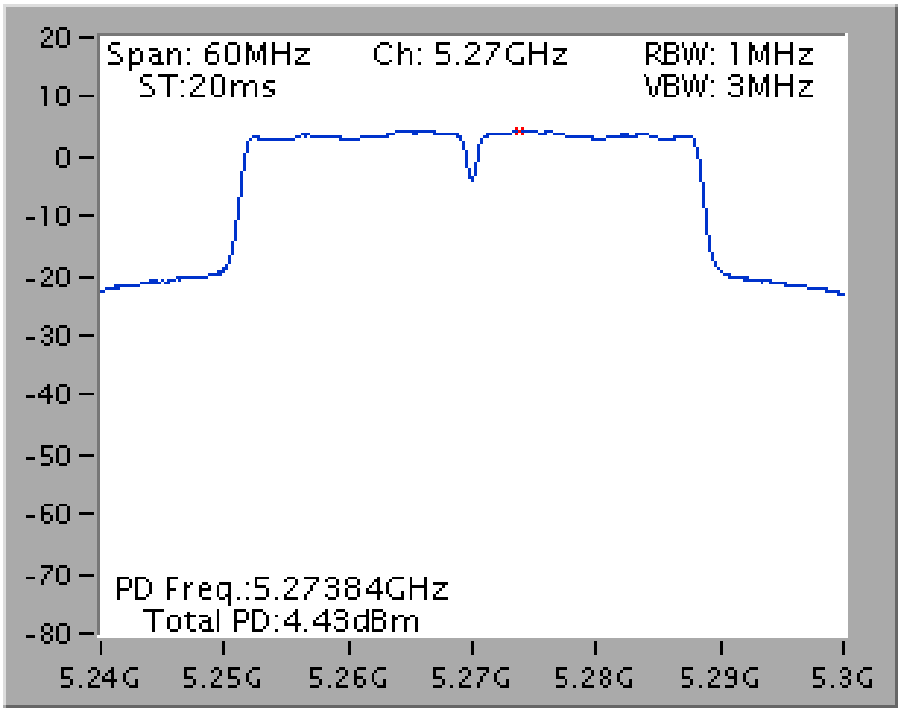
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 / 5260 MHz



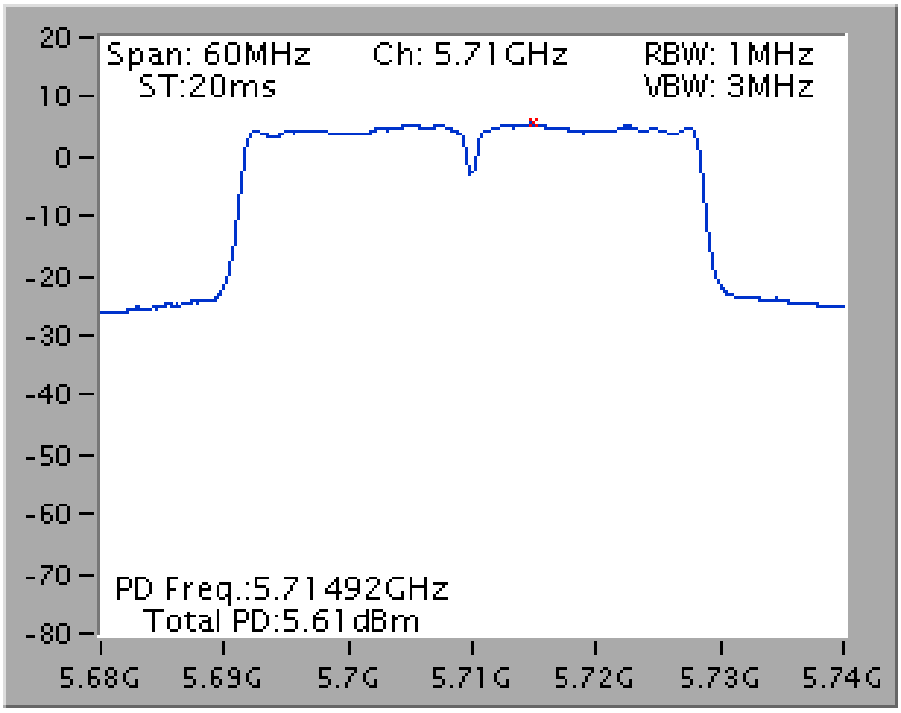
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 / 5720 MHz



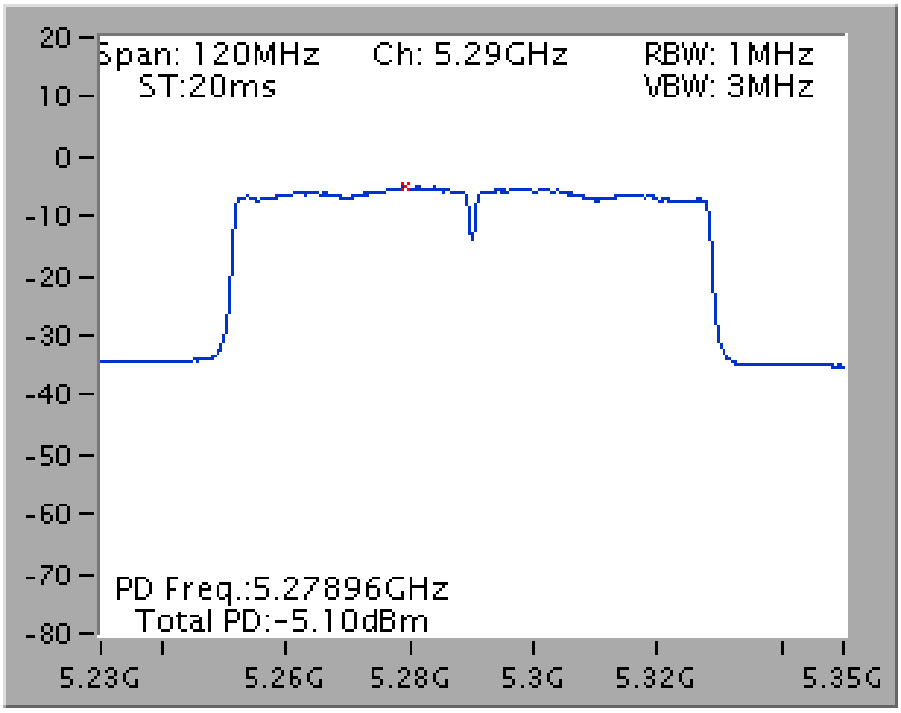
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 / 5270 MHz



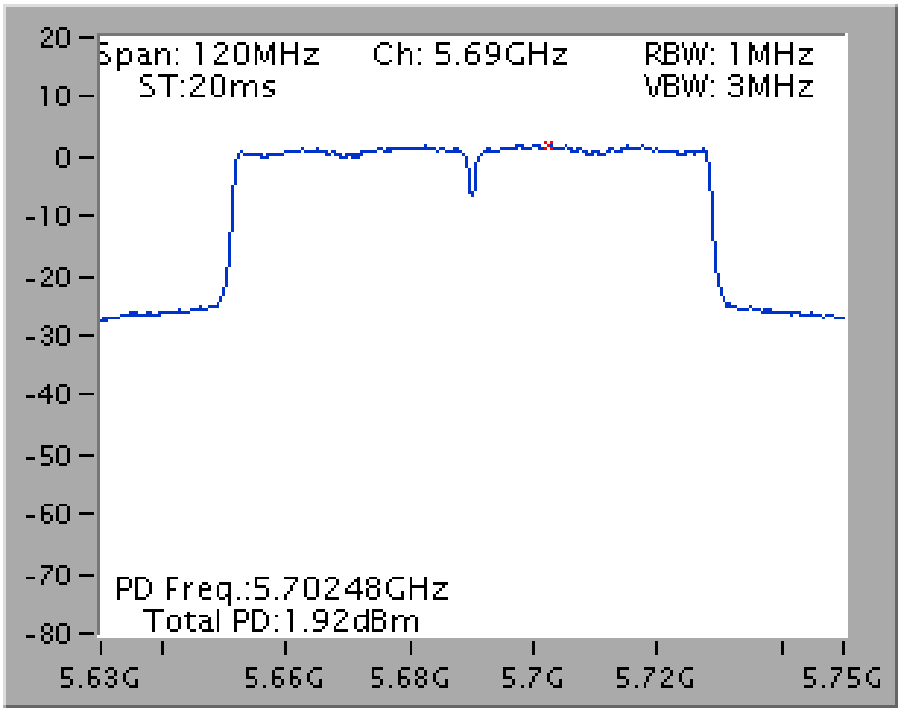
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 / 5710 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 / 5290 MHz

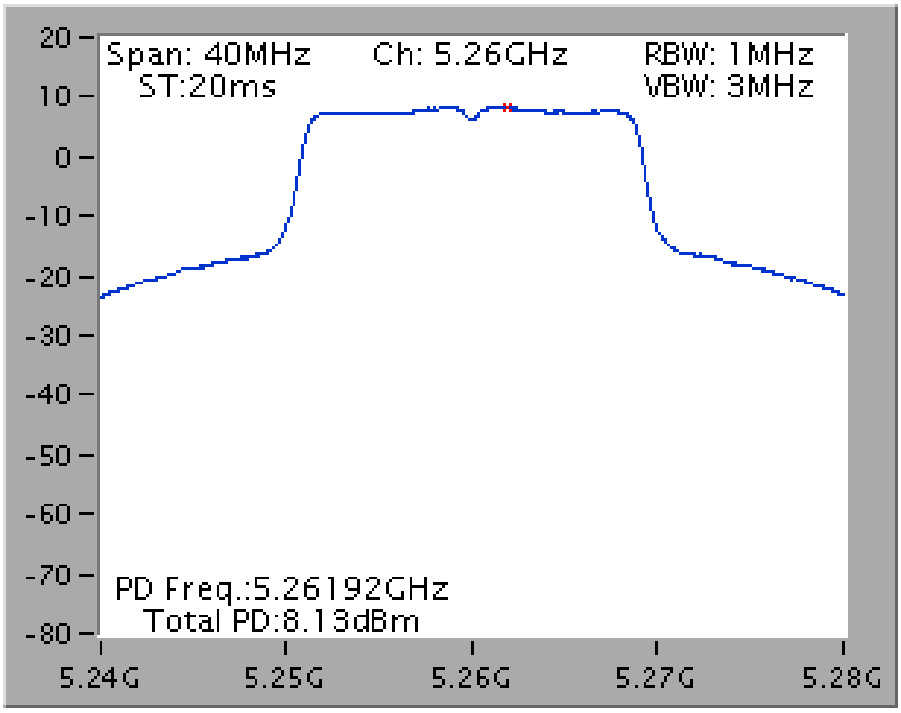


Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 / 5690 MHz

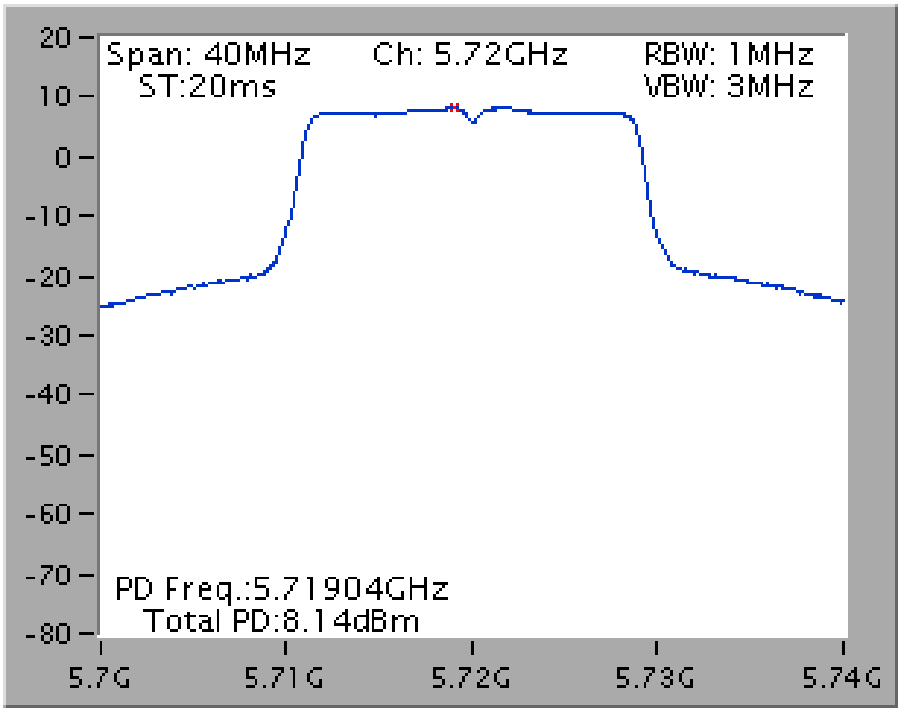


Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

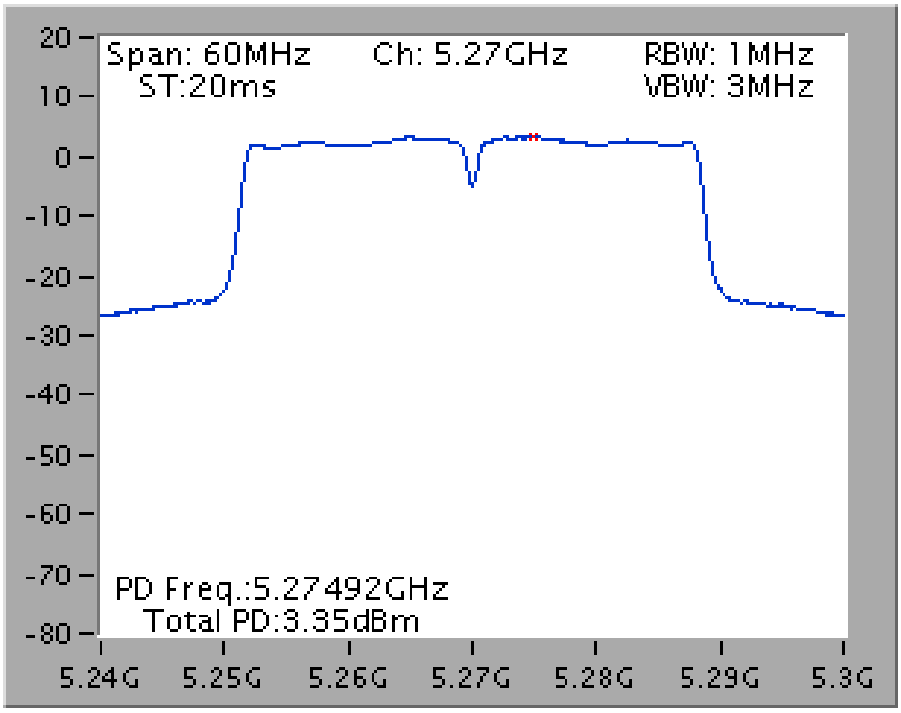
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 / 5260 MHz



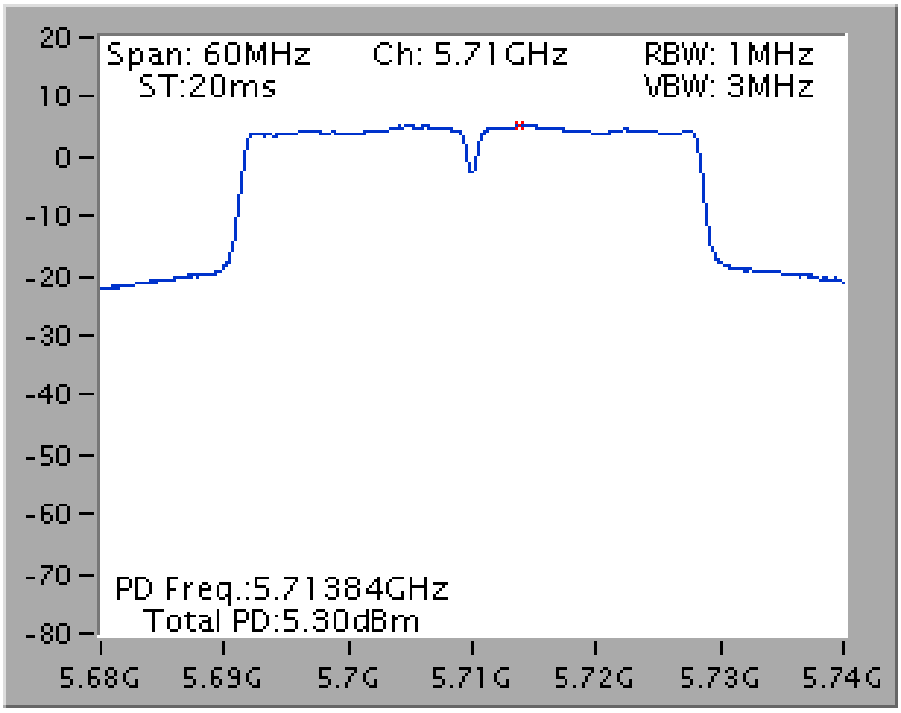
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 / 5720 MHz



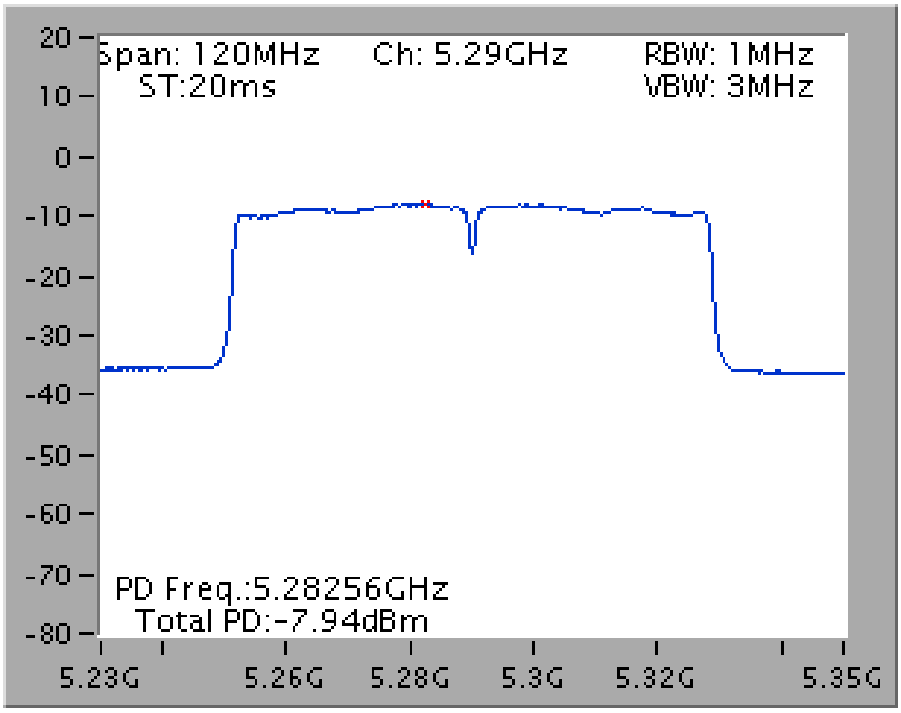
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 / 5270 MHz



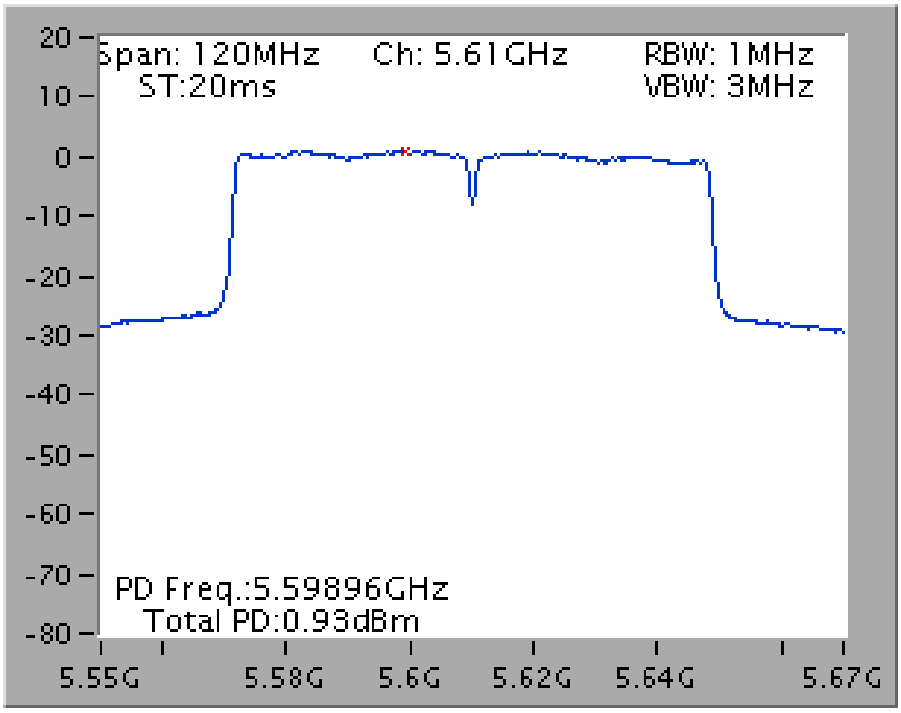
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 / 5710 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 / 5290 MHz



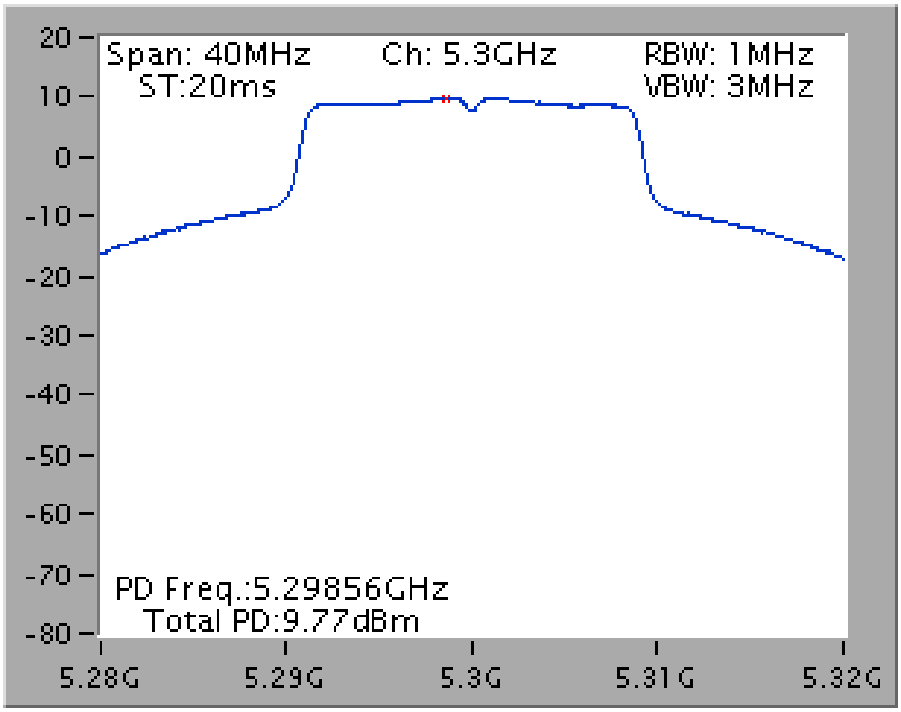
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 / 5610 MHz



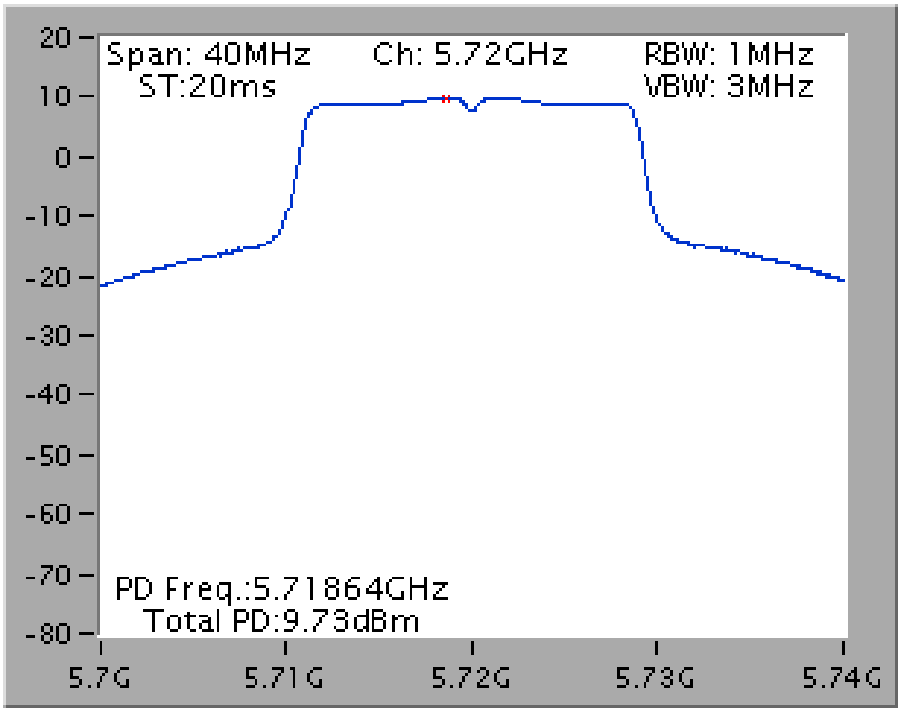
<For STBC Mode>

Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

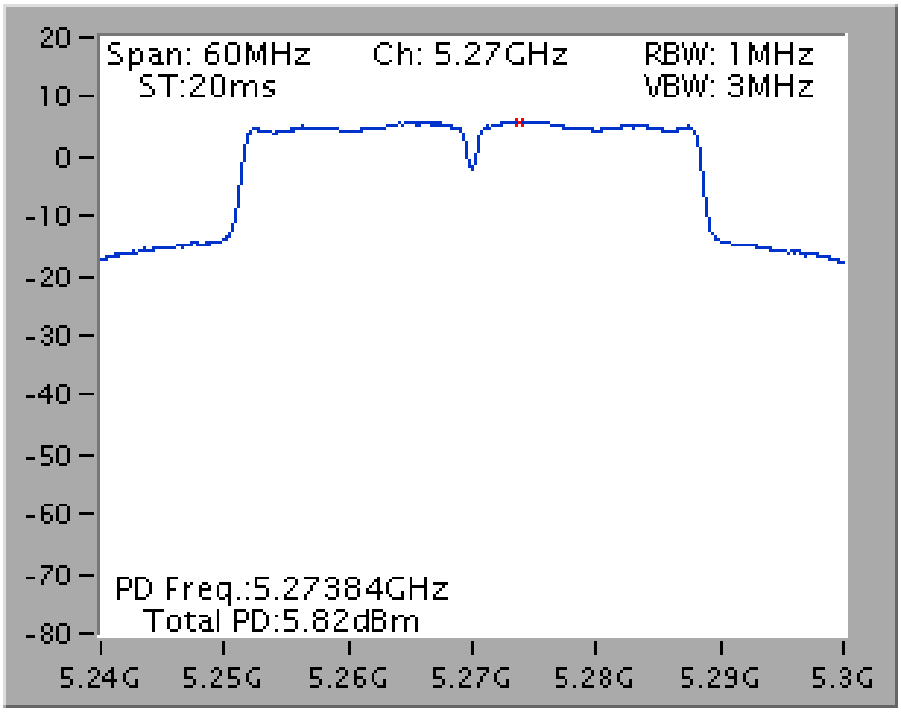
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 / 5300 MHz



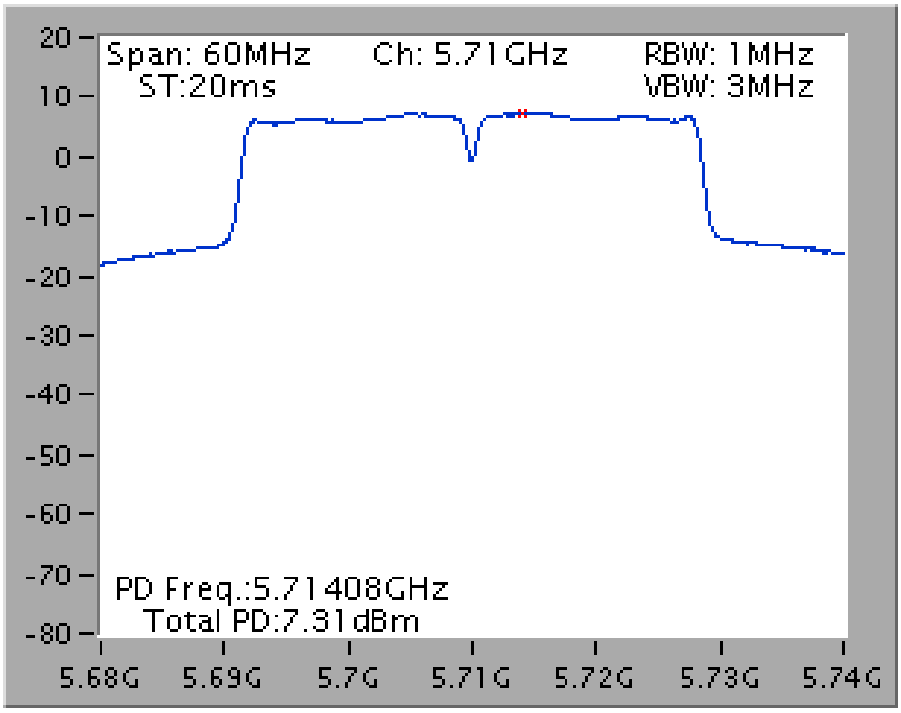
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 / 5720 MHz



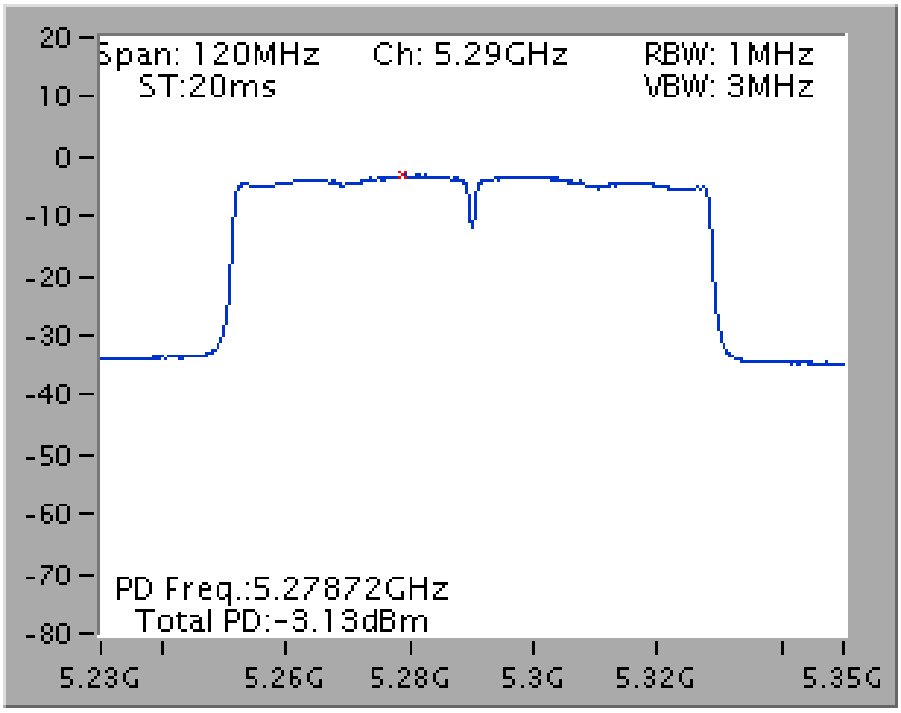
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 / 5270 MHz



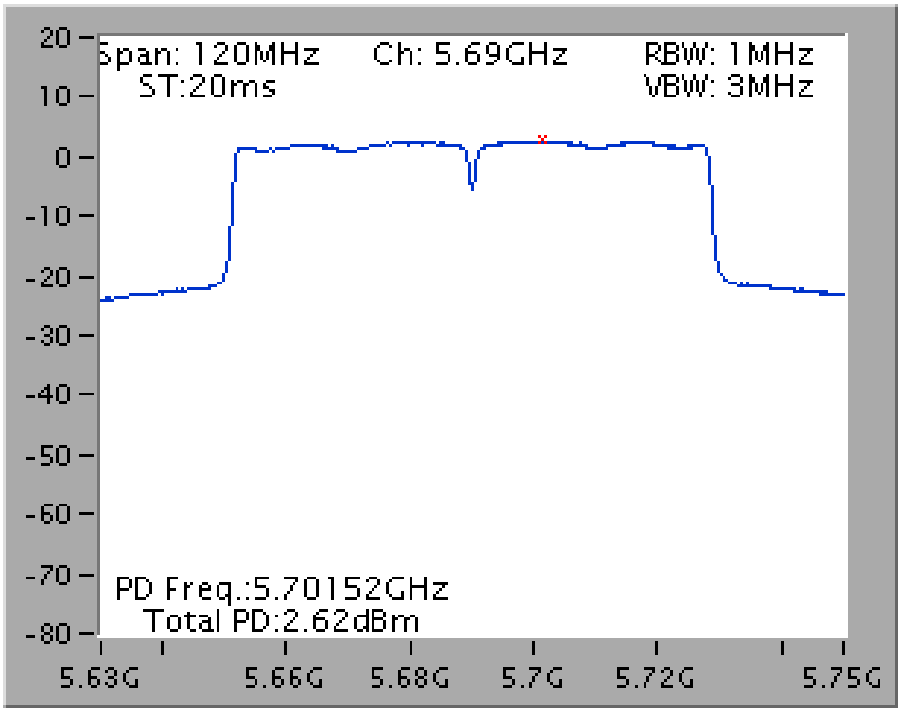
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 / 5710 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 / 5290 MHz

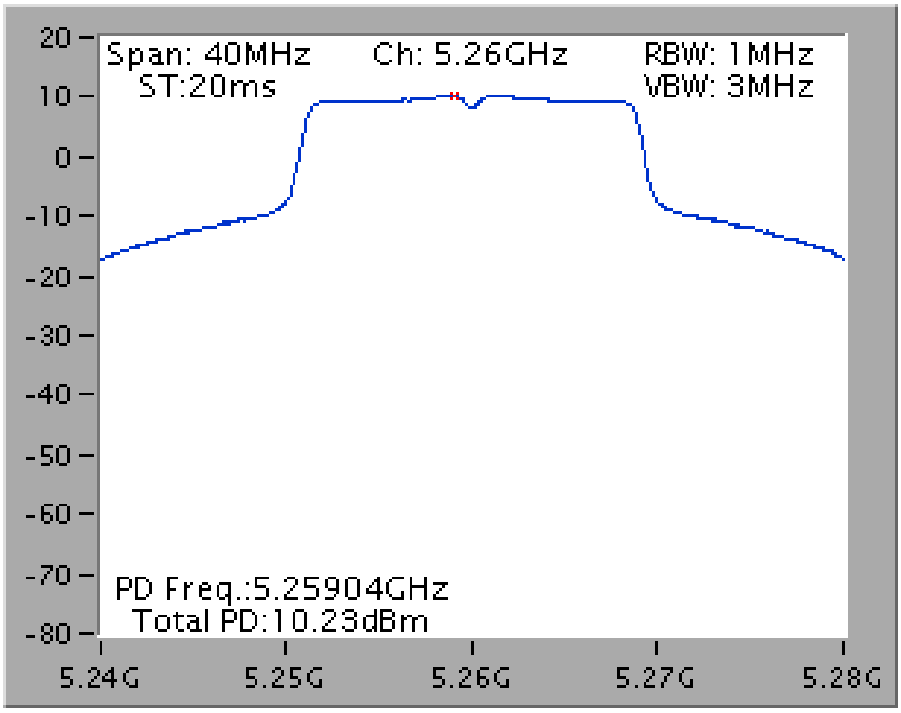


Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 / 5690 MHz

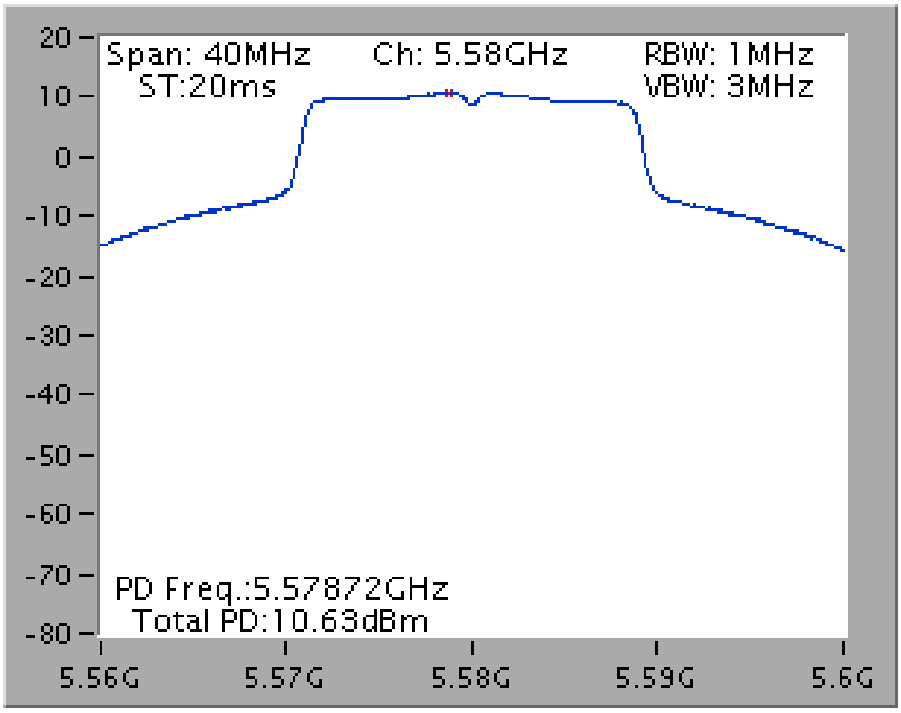


Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

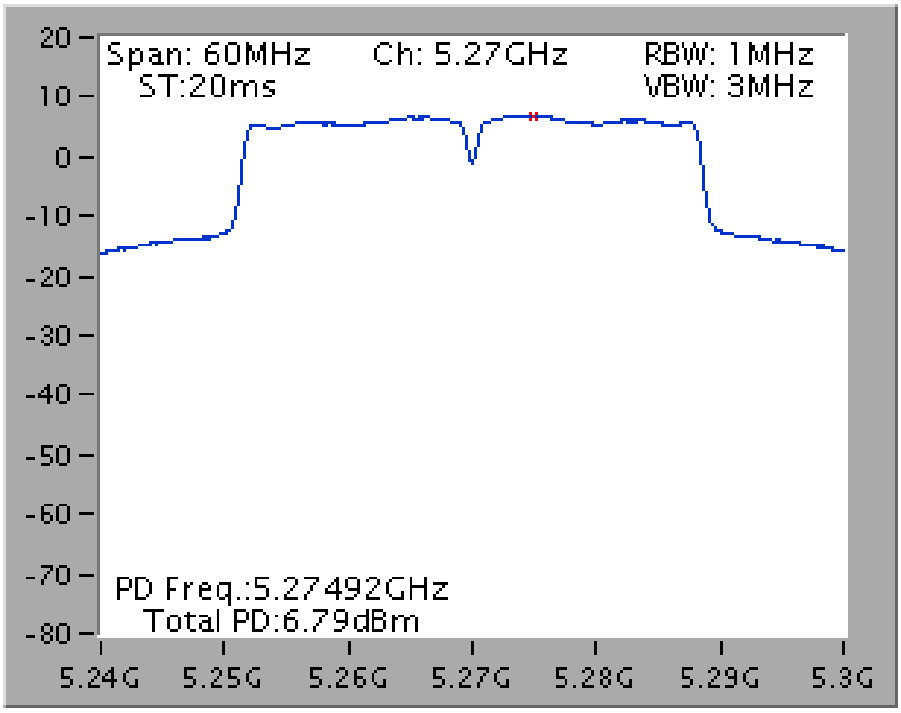
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 / 5260 MHz



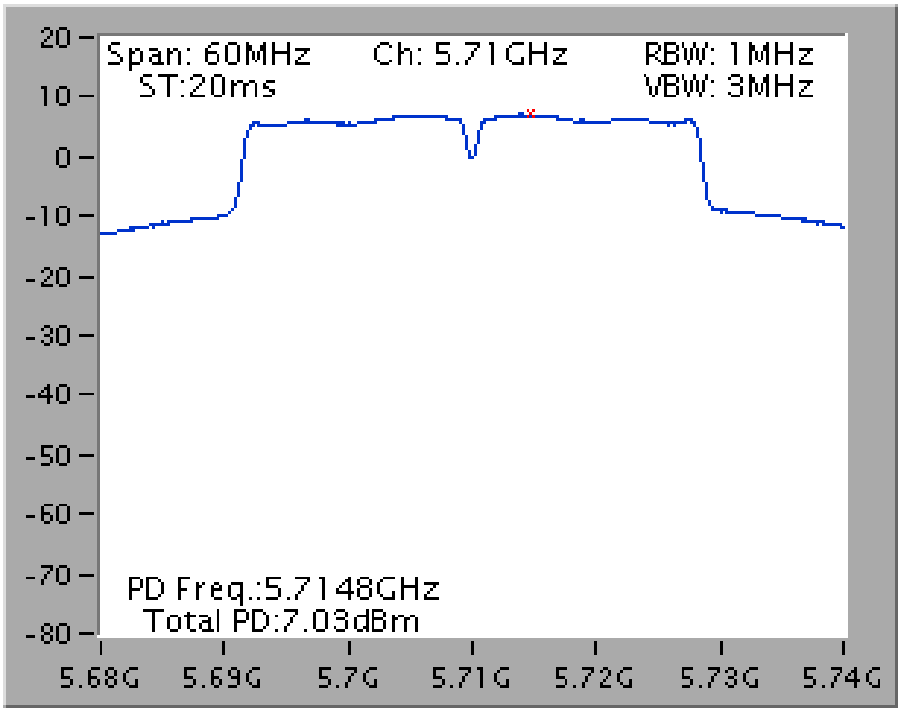
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 / 5580 MHz



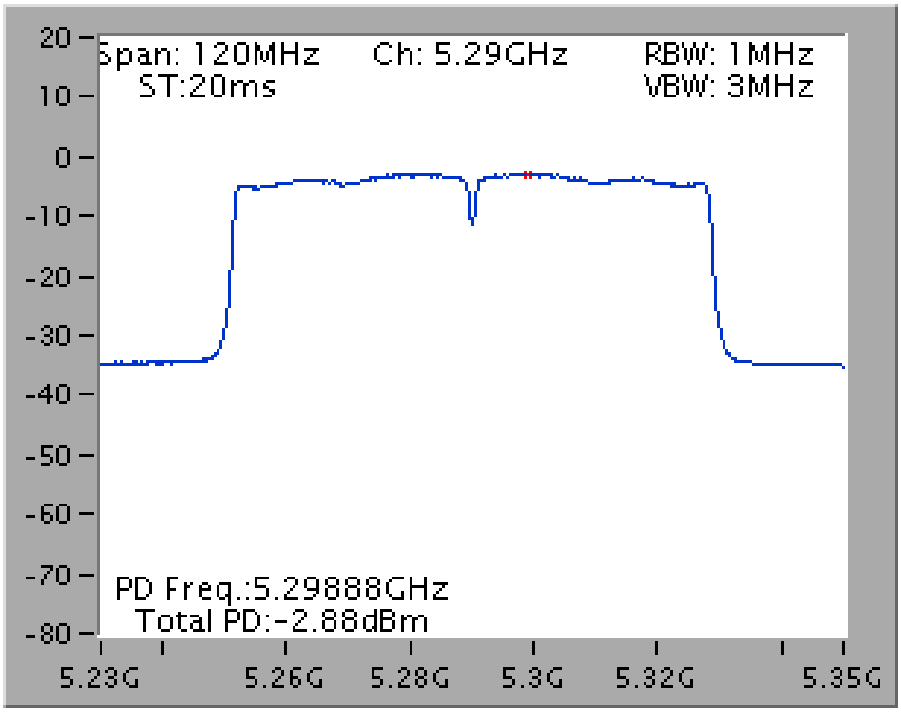
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 / 5270 MHz



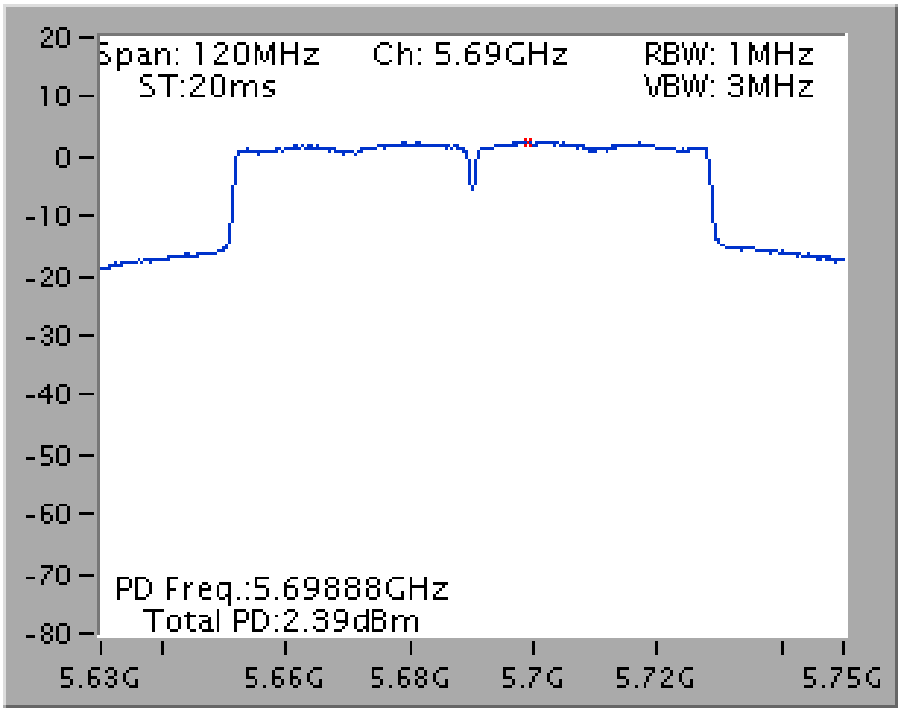
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 / 5710 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 / 5290 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 / 5690 MHz



4.5. Radiated Emissions Measurement

4.5.1. Limit

For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

For transmitters operating in the 5.470-5.725 GHz band: all emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

In addition, In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

4.5.2. Measuring Instruments and Setting

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

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	40 GHz
RBW / VBW (Emission in restricted band)	1MHz / 3MHz for Peak, 1MHz / 10Hz for Average
RBW / VBW (Emission in non-restricted band)	1MHz / 3MHz for peak

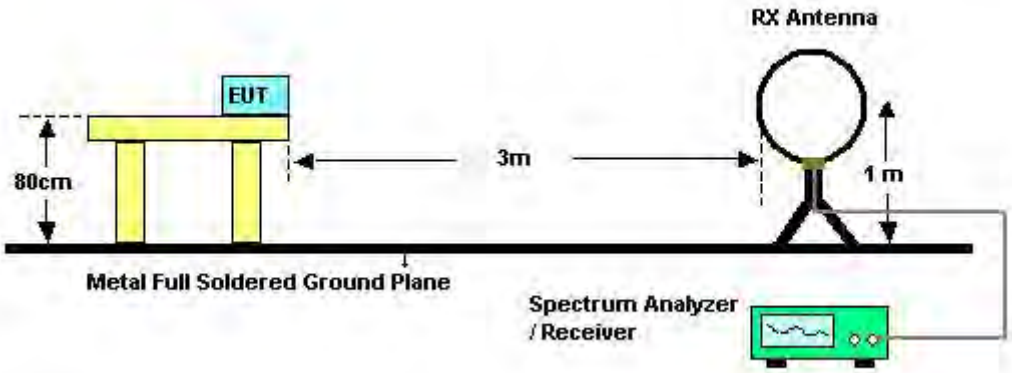
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RBW 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RBW 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RBW 120kHz for QP

4.5.3. Test Procedures

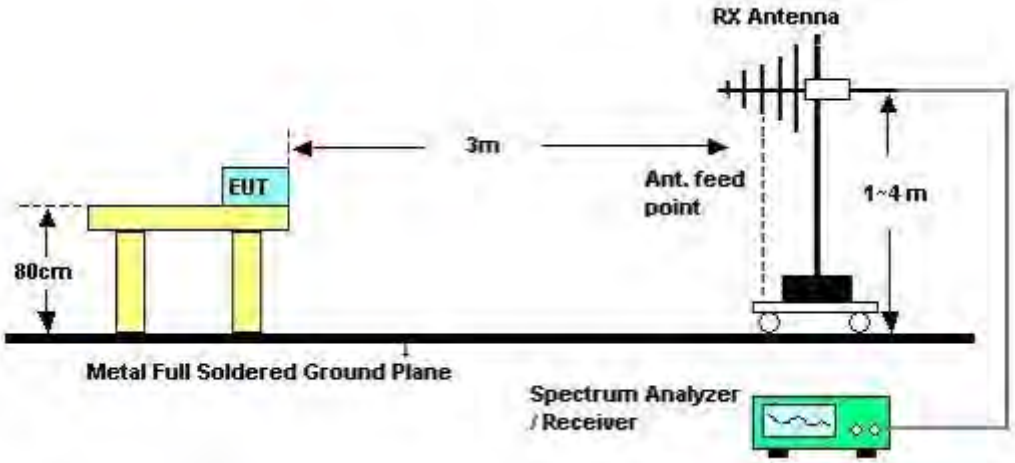
1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer.
7. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
8. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
9. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High – Low scan is not required in this case.

4.5.4. Test Setup Layout

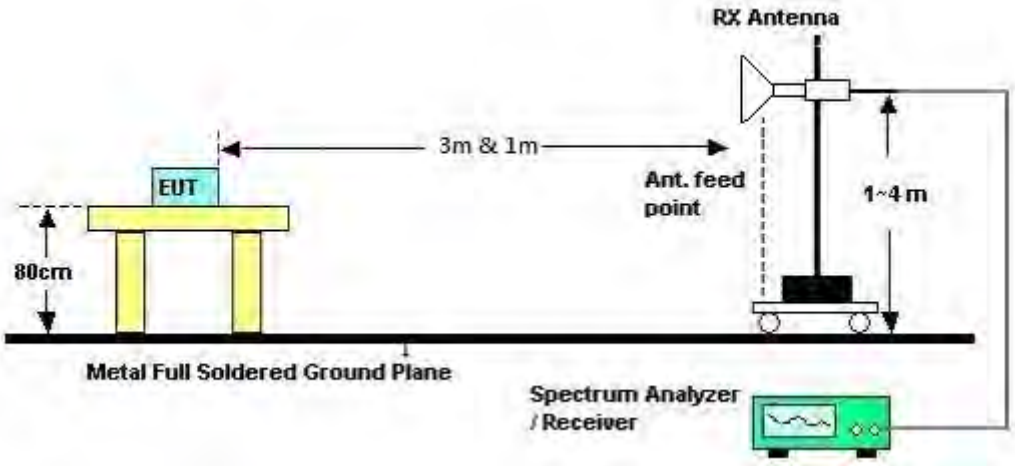
For Radiated Emissions: 9kHz ~30MHz



For Radiated Emissions: 30MHz~1GHz



For Radiated Emissions: Above 1GHz



4.5.5. Test Deviation

There is no deviation with the original standard.

4.5.6. EUT Operation during Test

For Non-beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

For beamforming mode:

The EUT was programmed to be in beamforming transmitting mode.

For STBC mode:

The EUT was programmed to be in continuously transmitting mode.

4.5.7. Results of Radiated Emissions (9kHz~30MHz)

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	Normal Link
Test Date	Apr. 26, 2014	Test Mode	Mode 1

Freq. (MHz)	Level (dBuV)	Over Limit (dB)	Limit Line (dBuV)	Remark
-	-	-	-	See Note

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

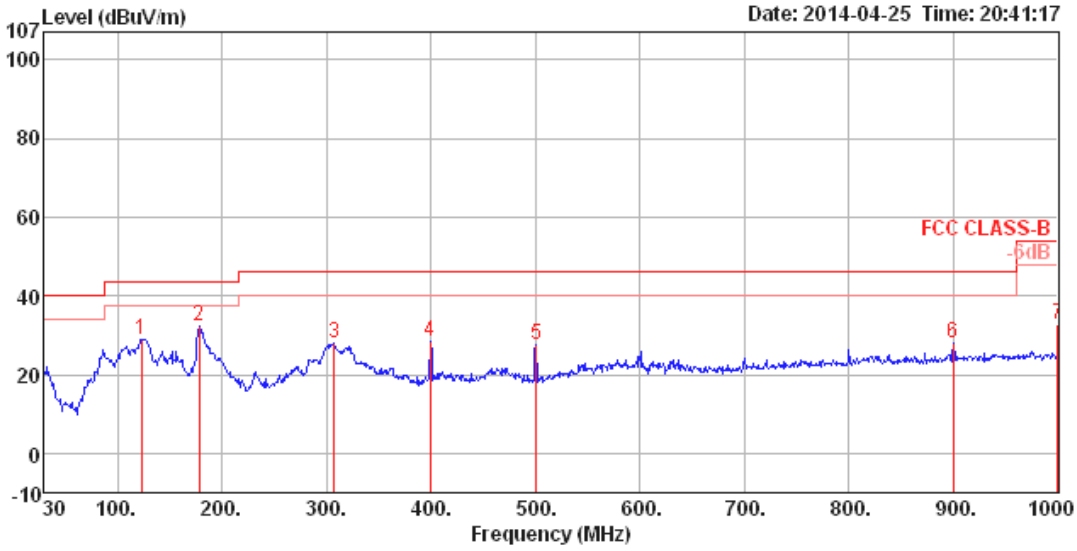
Distance extrapolation factor = 40 log (specific distance / test distance) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor.

4.5.8. Results of Radiated Emissions (30MHz~1GHz)

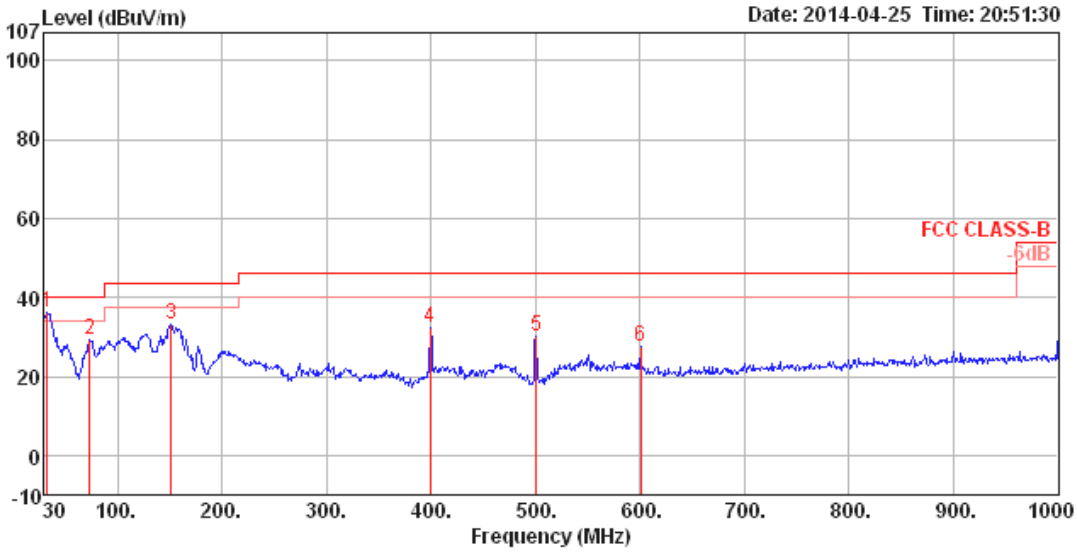
Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	Normal Link
Test Mode	Mode 1		

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	123.12	28.90	43.50	-14.60	47.48	1.31	11.67	31.56	150	193	HORIZONTAL	Peak
2	178.41	32.45	43.50	-11.05	53.88	1.60	8.49	31.52	125	148	HORIZONTAL	Peak
3	307.42	27.78	46.00	-18.22	43.73	2.14	13.30	31.39	100	166	HORIZONTAL	Peak
4	399.57	28.52	46.00	-17.48	41.63	2.49	15.86	31.46	200	237	HORIZONTAL	Peak
5	500.45	27.70	46.00	-18.30	39.37	2.82	16.92	31.41	200	104	HORIZONTAL	Peak
6	900.09	28.00	46.00	-18.00	34.60	3.97	20.64	31.21	125	308	HORIZONTAL	Peak
7	1000.00	32.88	54.00	-21.12	38.41	4.21	21.44	31.18	150	238	HORIZONTAL	Peak

Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	32.91	36.15	40.00	-3.85	50.96	0.67	16.37	31.85	100	159	VERTICAL	Peak
2	73.65	29.25	40.00	-10.75	54.13	1.02	5.80	31.70	200	219	VERTICAL	Peak
3	151.25	33.26	43.50	-10.24	53.44	1.48	9.90	31.56	100	316	VERTICAL	Peak
4	399.57	32.40	46.00	-13.60	45.51	2.49	15.86	31.46	200	18	VERTICAL	Peak
5	500.45	30.06	46.00	-15.94	41.73	2.82	16.92	31.41	125	196	VERTICAL	Peak
6	600.36	27.64	46.00	-18.36	37.31	3.12	18.45	31.24	100	106	VERTICAL	Peak

Note:

The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

4.5.9. Results for Radiated Emissions (1GHz~40GHz)

<For Non-Beamforming Mode>

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 52 / Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	15780.24	50.44	54.00	-3.56	38.97	7.93	38.48	34.94	Average	65	126	HORIZONTAL
2	15784.17	64.17	74.00	-9.83	52.70	7.94	38.47	34.94	Peak	65	126	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	15774.31	64.46	74.00	-9.54	52.97	7.93	38.48	34.92	Peak	240	124	VERTICAL
2	15776.31	50.46	54.00	-3.54	38.97	7.93	38.48	34.92	Average	240	124	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 60 / Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10577.56	39.22	54.00	-14.78	29.21	6.62	38.39	35.00	Average	220	100	HORIZONTAL
2	10595.99	53.12	74.00	-20.88	43.13	6.61	38.38	35.00	Peak	220	100	HORIZONTAL
3	15900.96	60.88	74.00	-13.12	49.56	7.98	38.37	35.03	Peak	43	100	HORIZONTAL
4	15902.16	46.60	54.00	-7.40	35.28	7.98	38.37	35.03	Average	43	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10600.64	39.45	74.00	-34.55	29.47	6.60	38.38	35.00	Peak	138	100	VERTICAL
2	10614.66	52.10	54.00	-1.90	42.11	6.60	38.38	34.99	Average	138	100	VERTICAL
3	15899.92	46.36	54.00	-7.64	35.04	7.97	38.38	35.03	Average	247	102	VERTICAL
4	15906.97	60.01	74.00	-13.99	48.71	7.98	38.37	35.05	Peak	247	102	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 64 / Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10615.40	51.69	74.00	-22.31	41.70	6.60	38.38	34.99	Peak	98	100	HORIZONTAL
2	10630.38	38.89	54.00	-15.11	28.88	6.60	38.38	34.97	Average	98	100	HORIZONTAL
3	15961.36	42.35	54.00	-11.65	31.12	8.00	38.33	35.10	Average	217	100	HORIZONTAL
4	15966.33	54.00	74.00	-20.00	42.77	8.00	38.33	35.10	Peak	217	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10619.49	38.87	54.00	-15.13	28.88	6.60	38.38	34.99	Average	4	100	VERTICAL
2	10628.06	51.67	74.00	-22.33	41.66	6.60	38.38	34.97	Peak	4	100	VERTICAL
3	15963.13	40.96	54.00	-13.04	29.73	8.00	38.33	35.10	Average	282	100	VERTICAL
4	15966.57	54.05	74.00	-19.95	42.82	8.00	38.33	35.10	Peak	282	100	VERTICAL

Temperature	24℃	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 100 / Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11002.00	38.88	54.00	-15.12	28.83	6.46	38.30	34.71	Average	192	100	HORIZONTAL
2	11009.29	52.03	74.00	-21.97	41.97	6.47	38.30	34.71	Peak	192	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10975.08	52.03	74.00	-21.97	41.99	6.47	38.30	34.73	Peak	142	100	VERTICAL
2	10995.27	39.04	54.00	-14.96	28.99	6.46	38.30	34.71	Average	142	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 116 / Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11169.21	38.73	54.00	-15.27	28.56	6.56	38.30	34.69	Average	302	100	HORIZONTAL
2	11176.83	51.92	74.00	-22.08	41.74	6.57	38.30	34.69	Peak	302	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11139.89	51.07	74.00	-22.93	40.92	6.54	38.30	34.69	Peak	122	100	VERTICAL
2	11161.76	38.60	54.00	-15.40	28.43	6.56	38.30	34.69	Average	122	100	VERTICAL

Temperature	24℃	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 140 / Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11413.46	38.88	54.00	-15.12	28.55	6.70	38.30	34.67	Average	235	100	HORIZONTAL
2	11422.60	51.96	74.00	-22.04	41.63	6.70	38.30	34.67	Peak	235	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11384.46	52.93	74.00	-21.07	42.62	6.68	38.30	34.67	Peak	135	100	VERTICAL
2	11410.02	38.06	54.00	-15.94	27.74	6.69	38.30	34.67	Average	135	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 144 / Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11438.24	58.15	74.00	-15.85	47.81	6.71	38.30	34.67	Peak	318	100	HORIZONTAL
2	11439.28	45.03	54.00	-8.97	34.69	6.71	38.30	34.67	Average	318	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11438.80	56.92	74.00	-17.08	46.58	6.71	38.30	34.67	Peak	22	100	VERTICAL
2	11441.60	43.37	54.00	-10.63	33.03	6.71	38.30	34.67	Average	22	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 54 / Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	15805.59	54.44	74.00	-19.56	43.01	7.95	38.45	34.97	Peak	161	100	HORIZONTAL
2	15812.96	40.76	54.00	-13.24	29.33	7.95	38.45	34.97	Average	161	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	15785.64	40.68	54.00	-13.32	29.21	7.94	38.47	34.94	Average	131	100	VERTICAL
2	15802.79	54.50	74.00	-19.50	43.07	7.95	38.45	34.97	Peak	131	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 62 / Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10609.90	39.14	54.00	-14.86	29.15	6.60	38.38	34.99	Average	305	100	HORIZONTAL
2	10640.51	51.90	74.00	-22.10	41.91	6.59	38.37	34.97	Peak	305	100	HORIZONTAL
3	15945.95	54.22	74.00	-19.78	42.97	7.99	38.34	35.08	Peak	110	100	HORIZONTAL
4	15954.92	40.19	54.00	-13.81	28.94	8.00	38.33	35.08	Average	110	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10597.88	38.96	54.00	-15.04	28.98	6.60	38.38	35.00	Average	35	100	VERTICAL
2	10611.03	51.27	74.00	-22.73	41.28	6.60	38.38	34.99	Peak	35	100	VERTICAL
3	15932.72	53.91	74.00	-20.09	42.64	7.99	38.36	35.08	Peak	315	100	VERTICAL
4	15946.27	40.35	54.00	-13.65	29.10	7.99	38.34	35.08	Average	315	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 102 / Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10997.00	51.31	74.00	-22.69	41.26	6.46	38.30	34.71	Peak	216	100	HORIZONTAL
2	11042.20	38.93	54.00	-15.07	28.84	6.49	38.30	34.70	Average	216	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10995.72	38.83	54.00	-15.17	28.78	6.46	38.30	34.71	Average	252	100	VERTICAL
2	11031.70	51.61	74.00	-22.39	41.54	6.48	38.30	34.71	Peak	252	100	VERTICAL

Temperature	24℃	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 110 / Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11081.57	38.82	54.00	-15.18	28.71	6.51	38.30	34.70	Average	258	100	HORIZONTAL
2	11120.59	51.75	74.00	-22.25	41.62	6.53	38.30	34.70	Peak	258	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11079.41	38.69	54.00	-15.31	28.58	6.51	38.30	34.70	Average	139	100	VERTICAL
2	11115.22	51.10	74.00	-22.90	40.97	6.53	38.30	34.70	Peak	139	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 134 / Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11318.13	38.73	54.00	-15.27	28.47	6.64	38.30	34.68	Average	322	100	HORIZONTAL
2	11361.07	51.28	74.00	-22.72	40.99	6.66	38.30	34.67	Peak	322	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11319.17	51.61	74.00	-22.39	41.35	6.64	38.30	34.68	Peak	13	100	VERTICAL
2	11363.08	38.84	54.00	-15.16	28.54	6.67	38.30	34.67	Average	13	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 142 / Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11411.67	52.37	74.00	-21.63	42.05	6.69	38.30	34.67	Peak	235	100	HORIZONTAL
2	11421.52	40.15	54.00	-13.85	29.82	6.70	38.30	34.67	Average	235	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11419.68	53.14	74.00	-20.86	42.81	6.70	38.30	34.67	Peak	130	100	VERTICAL
2	11420.40	41.17	54.00	-12.83	30.84	6.70	38.30	34.67	Average	130	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 58 / Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	15858.62	41.13	54.00	-12.87	29.77	7.96	38.41	35.01	Average	186	100	HORIZONTAL
2	15869.04	53.61	74.00	-20.39	42.25	7.97	38.40	35.01	Peak	186	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	15853.49	53.77	74.00	-20.23	42.39	7.96	38.41	34.99	Peak	264	100	VERTICAL
2	15862.15	41.38	54.00	-12.62	30.02	7.96	38.41	35.01	Average	264	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 106 / Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11219.42	38.08	54.00	-15.92	27.88	6.59	38.30	34.69	Average	181	100	HORIZONTAL
2	11221.63	50.85	74.00	-23.15	40.65	6.59	38.30	34.69	Peak	181	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11218.78	51.41	74.00	-22.59	41.21	6.59	38.30	34.69	Peak	290	100	VERTICAL
2	11227.66	37.29	54.00	-16.71	27.08	6.60	38.30	34.69	Average	290	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 122 / Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11227.69	51.15	74.00	-22.85	40.94	6.60	38.30	34.69	Peak	64	100	HORIZONTAL
2	11243.96	37.77	54.00	-16.23	27.54	6.61	38.30	34.68	Average	64	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11223.13	51.24	74.00	-22.76	41.04	6.59	38.30	34.69	Peak	68	100	VERTICAL
2	11239.79	37.66	54.00	-16.34	27.44	6.60	38.30	34.68	Average	68	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 138 / Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11376.28	51.76	74.00	-22.24	41.46	6.67	38.30	34.67	Peak	244	100	HORIZONTAL
2	11379.94	38.94	54.00	-15.06	28.63	6.68	38.30	34.67	Average	244	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11379.01	51.88	74.00	-22.12	41.57	6.68	38.30	34.67	Peak	115	100	VERTICAL
2	11390.00	37.97	54.00	-16.03	27.66	6.68	38.30	34.67	Average	115	100	VERTICAL

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 52 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	15775.38	65.76	74.00	-8.24	54.27	7.93	38.48	34.92	Peak	46	100	HORIZONTAL
2	15783.42	51.17	54.00	-2.83	39.70	7.94	38.47	34.94	Average	46	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	15776.48	66.96	74.00	-7.04	55.47	7.93	38.48	34.92	Peak	236	126	VERTICAL
2	15781.64	50.63	54.00	-3.37	39.16	7.94	38.47	34.94	Average	236	126	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 60 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10601.08	57.17	74.00	-16.83	47.18	6.60	38.38	34.99	Peak	302	100	HORIZONTAL
2	10601.08	42.64	54.00	-11.36	32.65	6.60	38.38	34.99	Average	302	100	HORIZONTAL
3	15898.00	63.57	74.00	-10.43	52.25	7.97	38.38	35.03	Peak	47	100	HORIZONTAL
4	15898.36	49.15	54.00	-4.85	37.83	7.97	38.38	35.03	Average	47	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10600.80	39.04	54.00	-14.96	29.05	6.60	38.38	34.99	Average	130	100	VERTICAL
2	10608.60	52.95	74.00	-21.05	42.96	6.60	38.38	34.99	Peak	130	100	VERTICAL
3	15901.20	64.98	74.00	-9.02	53.66	7.98	38.37	35.03	Peak	232	106	VERTICAL
4	15901.20	50.02	54.00	-3.98	38.70	7.98	38.37	35.03	Average	232	106	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 64 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10641.56	38.90	54.00	-15.10	28.91	6.59	38.37	34.97	Average	344	100	HORIZONTAL
2	10643.52	52.80	74.00	-21.20	42.81	6.59	38.37	34.97	Peak	344	100	HORIZONTAL
3	15952.56	56.85	74.00	-17.15	45.60	8.00	38.33	35.08	Peak	26	100	HORIZONTAL
4	15958.80	42.43	54.00	-11.57	31.20	8.00	38.33	35.10	Average	26	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10636.20	51.73	74.00	-22.27	41.74	6.59	38.37	34.97	Peak	303	100	VERTICAL
2	10638.76	37.39	54.00	-16.61	27.40	6.59	38.37	34.97	Average	303	100	VERTICAL
3	15958.88	43.05	54.00	-10.95	31.82	8.00	38.33	35.10	Average	244	100	VERTICAL
4	15963.92	57.67	74.00	-16.33	46.44	8.00	38.33	35.10	Peak	244	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 100 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11001.58	51.56	74.00	-22.44	41.51	6.46	38.30	34.71	Peak	49	100	HORIZONTAL
2	11004.06	37.13	54.00	-16.87	27.08	6.46	38.30	34.71	Average	49	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11001.88	51.20	74.00	-22.80	41.15	6.46	38.30	34.71	Peak	233	100	VERTICAL
2	11004.08	37.05	54.00	-16.95	27.00	6.46	38.30	34.71	Average	233	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 116 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11159.16	54.26	74.00	-19.74	44.09	6.56	38.30	34.69	Peak	320	126	HORIZONTAL
2	11159.36	40.17	54.00	-13.83	30.00	6.56	38.30	34.69	Average	320	126	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11159.74	39.57	54.00	-14.43	29.40	6.56	38.30	34.69	Average	23	103	VERTICAL
2	11164.64	53.47	74.00	-20.53	43.30	6.56	38.30	34.69	Peak	23	103	VERTICAL

Temperature	24℃	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 140 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m		deg	cm	
1	11398.34	51.72	74.00	-22.28	41.40	38.30	Peak	114	100	HORIZONTAL
2	11404.70	37.41	54.00	-16.59	27.09	38.30	Average	114	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m		deg	cm	
1	11401.84	37.53	54.00	-16.47	27.21	38.30	Average	312	100	VERTICAL
2	11403.96	51.85	74.00	-22.15	41.53	38.30	Peak	312	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 144 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11438.88	59.42	74.00	-14.58	49.08	6.71	38.30	34.67	Peak	317	100	HORIZONTAL
2	11439.36	45.04	54.00	-8.96	34.70	6.71	38.30	34.67	Average	317	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11438.66	60.05	74.00	-13.95	49.71	6.71	38.30	34.67	Peak	19	100	VERTICAL
2	11439.04	45.56	54.00	-8.44	35.22	6.71	38.30	34.67	Average	19	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 54 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	15811.00	56.70	74.00	-17.30	45.27	7.95	38.45	34.97	Peak	19	100	HORIZONTAL
2	15811.42	42.34	54.00	-11.66	30.91	7.95	38.45	34.97	Average	19	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	15806.84	42.53	54.00	-11.47	31.10	7.95	38.45	34.97	Average	242	100	VERTICAL
2	15809.24	56.67	74.00	-17.33	45.24	7.95	38.45	34.97	Peak	242	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 62 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10615.02	51.61	74.00	-22.39	41.62	6.60	38.38	34.99	Peak	325	100	HORIZONTAL
2	10619.88	37.58	54.00	-16.42	27.59	6.60	38.38	34.99	Average	325	100	HORIZONTAL
3	15925.76	42.03	54.00	-11.97	30.73	7.99	38.36	35.05	Average	76	100	HORIZONTAL
4	15932.06	56.63	74.00	-17.37	45.36	7.99	38.36	35.08	Peak	76	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10616.98	51.05	74.00	-22.95	41.06	6.60	38.38	34.99	Peak	69	100	VERTICAL
2	10619.72	37.12	54.00	-16.88	27.13	6.60	38.38	34.99	Average	69	100	VERTICAL
3	15926.16	42.05	54.00	-11.95	30.75	7.99	38.36	35.05	Average	316	100	VERTICAL
4	15929.06	56.18	74.00	-17.82	44.88	7.99	38.36	35.05	Peak	316	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 102 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11016.68	50.75	74.00	-23.25	40.69	6.47	38.30	34.71	Peak	74	100	HORIZONTAL
2	11020.12	37.08	54.00	-16.92	27.02	6.47	38.30	34.71	Average	74	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11019.94	37.35	54.00	-16.65	27.29	6.47	38.30	34.71	Average	231	100	VERTICAL
2	11022.00	50.81	74.00	-23.19	40.74	6.48	38.30	34.71	Peak	231	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 110 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11102.58	37.60	54.00	-16.40	27.48	6.52	38.30	34.70	Average	200	100	HORIZONTAL
2	11103.80	51.35	74.00	-22.65	41.23	6.52	38.30	34.70	Peak	200	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11097.28	51.00	74.00	-23.00	40.88	6.52	38.30	34.70	Peak	100	100	VERTICAL
2	11099.84	37.56	54.00	-16.44	27.44	6.52	38.30	34.70	Average	100	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 134 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11339.88	37.75	54.00	-16.25	27.48	6.65	38.30	34.68	Average	59	100	HORIZONTAL
2	11343.20	51.04	74.00	-22.96	40.76	6.65	38.30	34.67	Peak	59	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11340.20	37.70	54.00	-16.30	27.43	6.65	38.30	34.68	Average	340	100	VERTICAL
2	11342.70	51.46	74.00	-22.54	41.18	6.65	38.30	34.67	Peak	340	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 142 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11418.76	55.99	74.00	-18.01	45.66	6.70	38.30	34.67	Peak	244	100	HORIZONTAL
2	11424.24	41.43	54.00	-12.57	31.10	6.70	38.30	34.67	Average	244	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11418.72	56.64	74.00	-17.36	46.31	6.70	38.30	34.67	Peak	18	100	VERTICAL
2	11424.32	41.56	54.00	-12.44	31.23	6.70	38.30	34.67	Average	18	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 58 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	15873.16	55.58	74.00	-18.42	44.22	7.97	38.40	35.01	Peak	142	100	HORIZONTAL
2	15873.72	41.85	54.00	-12.15	30.49	7.97	38.40	35.01	Average	142	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	15866.56	56.09	74.00	-17.91	44.73	7.97	38.40	35.01	Peak	338	100	VERTICAL
2	15873.72	41.94	54.00	-12.06	30.58	7.97	38.40	35.01	Average	338	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 106 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11059.40	51.15	74.00	-22.85	41.05	6.50	38.30	34.70	Peak	13	100	HORIZONTAL
2	11063.92	37.58	54.00	-16.42	27.48	6.50	38.30	34.70	Average	13	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11058.62	52.15	74.00	-21.85	42.05	6.50	38.30	34.70	Peak	216	100	VERTICAL
2	11061.38	37.67	54.00	-16.33	27.57	6.50	38.30	34.70	Average	216	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 122 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11219.64	37.58	54.00	-16.42	27.38	6.59	38.30	34.69	Average	298	100	HORIZONTAL
2	11220.86	51.57	74.00	-22.43	41.37	6.59	38.30	34.69	Peak	298	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11222.52	51.21	74.00	-22.79	41.01	6.59	38.30	34.69	Peak	154	100	VERTICAL
2	11224.30	37.45	54.00	-16.55	27.25	6.59	38.30	34.69	Average	154	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 138 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11375.90	51.85	74.00	-22.15	41.55	6.67	38.30	34.67	Peak	40	100	HORIZONTAL
2	11379.04	37.96	54.00	-16.04	27.65	6.68	38.30	34.67	Average	40	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11376.52	51.54	74.00	-22.46	41.24	6.67	38.30	34.67	Peak	304	100	VERTICAL
2	11379.28	38.30	54.00	-15.70	27.99	6.68	38.30	34.67	Average	304	100	VERTICAL

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 52 / Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15780.05	46.88	54.00	-7.12	37.87	6.14	38.11	35.24	Average	119	323	HORIZONTAL
2	15780.05	57.64	74.00	-16.36	48.63	6.14	38.11	35.24	Peak	119	323	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15780.05	42.96	54.00	-11.04	33.95	6.14	38.11	35.24	Average	100	145	VERTICAL
2	15780.05	53.60	74.00	-20.40	44.59	6.14	38.11	35.24	Peak	100	145	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 60 / Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10601.12	39.30	54.00	-14.70	30.60	5.01	38.92	35.23	Average	100	171	HORIZONTAL
2	10602.34	50.51	74.00	-23.49	41.81	5.01	38.92	35.23	Peak	100	171	HORIZONTAL
3	15901.92	44.07	54.00	-9.93	35.26	6.15	37.92	35.26	Average	112	73	HORIZONTAL
4	15906.12	56.68	74.00	-17.32	47.88	6.15	37.92	35.27	Peak	112	73	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10600.09	37.73	54.00	-16.27	29.05	5.01	38.92	35.25	Average	100	167	VERTICAL
2	10601.75	52.21	74.00	-21.79	43.51	5.01	38.92	35.23	Peak	100	167	VERTICAL
3	15899.71	54.88	74.00	-19.12	46.05	6.15	37.94	35.26	Peak	100	167	VERTICAL
4	15902.76	41.55	54.00	-12.45	32.74	6.15	37.92	35.26	Average	100	167	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 64 / Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10640.31	37.51	54.00	-16.49	28.79	5.01	38.93	35.22	Average	100	190	HORIZONTAL
2	10640.62	50.49	74.00	-23.51	41.77	5.01	38.93	35.22	Peak	100	190	HORIZONTAL
3	15958.11	51.43	74.00	-22.57	42.71	6.15	37.85	35.28	Peak	100	244	HORIZONTAL
4	15958.57	38.06	54.00	-15.94	29.34	6.15	37.85	35.28	Average	100	244	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10639.89	38.23	54.00	-15.77	29.51	5.01	38.93	35.22	Average	100	316	VERTICAL
2	10642.22	50.72	74.00	-23.28	42.00	5.01	38.93	35.22	Peak	100	316	VERTICAL
3	15957.68	38.47	54.00	-15.53	29.75	6.15	37.85	35.28	Average	100	194	VERTICAL
4	15962.86	51.58	74.00	-22.42	42.86	6.15	37.85	35.28	Peak	100	194	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 100 / Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10999.71	50.37	74.00	-23.63	41.34	5.01	39.00	34.98	Peak	100	149	HORIZONTAL
2	11000.04	37.32	54.00	-16.68	28.29	5.01	39.00	34.98	Average	100	149	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11000.40	37.69	54.00	-16.31	28.66	5.01	39.00	34.98	Average	100	97	VERTICAL
2	11001.12	50.61	74.00	-23.39	41.58	5.01	39.00	34.98	Peak	100	97	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 116 / Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11159.68	42.02	54.00	-11.98	32.85	5.04	39.13	35.00	Average	100	60	HORIZONTAL
2	11159.78	55.04	74.00	-18.96	45.87	5.04	39.13	35.00	Peak	100	60	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11158.37	54.49	74.00	-19.51	45.32	5.04	39.13	35.00	Peak	100	351	VERTICAL
2	11161.85	41.44	54.00	-12.56	32.26	5.05	39.13	35.00	Average	100	351	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 140 / Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11399.77	51.61	74.00	-22.39	42.23	5.10	39.32	35.04	Peak	100	159	HORIZONTAL
2	11399.88	38.96	54.00	-15.04	29.58	5.10	39.32	35.04	Average	100	159	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11399.21	51.50	74.00	-22.50	42.12	5.10	39.32	35.04	Peak	100	72	VERTICAL
2	11401.37	38.33	54.00	-15.67	28.95	5.10	39.32	35.04	Average	100	72	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 144 / Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11440.79	47.85	54.00	-6.15	38.44	5.10	39.35	35.04	Average	100	56	HORIZONTAL
2	11442.29	61.73	74.00	-12.27	52.31	5.11	39.35	35.04	Peak	100	56	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11437.05	60.25	74.00	-13.75	50.84	5.10	39.35	35.04	Peak	100	359	VERTICAL
2	11438.34	47.61	54.00	-6.39	38.20	5.10	39.35	35.04	Average	100	359	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 54 / Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15808.60	52.77	74.00	-21.23	43.80	6.14	38.07	35.24	Peak	100	80	HORIZONTAL
2	15811.85	40.01	54.00	-13.99	31.04	6.14	38.07	35.24	Average	100	80	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15808.96	39.94	54.00	-14.06	30.97	6.14	38.07	35.24	Average	100	222	VERTICAL
2	15811.11	53.68	74.00	-20.32	44.71	6.14	38.07	35.24	Peak	100	222	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 62 / Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10619.93	37.88	54.00	-16.12	29.18	5.01	38.92	35.23	Average	100	113	HORIZONTAL
2	10620.25	50.93	74.00	-23.07	42.23	5.01	38.92	35.23	Peak	100	113	HORIZONTAL
3	15927.26	38.80	54.00	-15.20	30.02	6.15	37.90	35.27	Average	100	255	HORIZONTAL
4	15927.51	52.47	74.00	-21.53	43.69	6.15	37.90	35.27	Peak	100	255	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10618.43	37.16	54.00	-16.84	28.46	5.01	38.92	35.23	Average	100	102	VERTICAL
2	10621.16	50.33	74.00	-23.67	41.63	5.01	38.92	35.23	Peak	100	102	VERTICAL
3	15927.75	51.59	74.00	-22.41	42.81	6.15	37.90	35.27	Peak	100	246	VERTICAL
4	15931.41	38.64	54.00	-15.36	29.87	6.15	37.90	35.28	Average	100	246	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 102 / Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11013.78	51.45	74.00	-22.55	42.40	5.02	39.01	34.98	Peak	100	300	HORIZONTAL
2	11019.81	37.64	54.00	-16.36	28.59	5.02	39.01	34.98	Average	100	300	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11011.22	50.96	74.00	-23.04	41.91	5.02	39.01	34.98	Peak	100	221	VERTICAL
2	11018.33	37.48	54.00	-16.52	28.43	5.02	39.01	34.98	Average	100	221	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 110 / Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11092.05	50.41	74.00	-23.59	41.29	5.03	39.08	34.99	Peak	100	175	HORIZONTAL
2	11093.17	37.72	54.00	-16.28	28.60	5.03	39.08	34.99	Average	100	175	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11090.71	50.67	74.00	-23.33	41.55	5.03	39.08	34.99	Peak	100	141	VERTICAL
2	11090.74	37.36	54.00	-16.64	28.24	5.03	39.08	34.99	Average	100	141	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 134 / Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11340.32	38.40	54.00	-15.60	29.07	5.09	39.27	35.03	Average	100	346	HORIZONTAL
2	11347.63	50.67	74.00	-23.33	41.33	5.09	39.28	35.03	Peak	100	346	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11341.38	50.85	74.00	-23.15	41.52	5.09	39.27	35.03	Peak	100	138	VERTICAL
2	11347.02	37.68	54.00	-16.32	28.34	5.09	39.28	35.03	Average	100	138	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 142 / Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11421.25	55.86	74.00	-18.14	46.47	5.10	39.33	35.04	Peak	100	357	HORIZONTAL
2	11427.12	42.04	54.00	-11.96	32.65	5.10	39.33	35.04	Average	100	357	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11410.16	56.00	74.00	-18.00	46.62	5.10	39.32	35.04	Peak	100	3	VERTICAL
2	11412.79	43.39	54.00	-10.61	34.00	5.10	39.33	35.04	Average	100	3	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 58 / Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15860.93	38.27	54.00	-15.73	29.40	6.14	37.99	35.26	Average	100	272	HORIZONTAL
2	15873.04	50.46	74.00	-23.54	41.61	6.14	37.97	35.26	Peak	100	272	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15867.37	51.86	74.00	-22.14	43.01	6.14	37.97	35.26	Peak	100	31	VERTICAL
2	15878.11	38.12	54.00	-15.88	29.27	6.14	37.97	35.26	Average	100	31	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 106 / Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11050.96	37.77	54.00	-16.23	28.70	5.02	39.04	34.99	Average	100	341	HORIZONTAL
2	11056.47	50.18	74.00	-23.82	41.10	5.02	39.05	34.99	Peak	100	341	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11051.03	37.37	54.00	-16.63	28.30	5.02	39.04	34.99	Average	100	188	VERTICAL
2	11051.86	50.29	74.00	-23.71	41.22	5.02	39.04	34.99	Peak	100	188	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 122 / Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11225.42	37.08	54.00	-16.92	27.86	5.06	39.17	35.01	Average	100	201	HORIZONTAL
2	11227.79	51.05	74.00	-22.95	41.81	5.06	39.19	35.01	Peak	100	201	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11225.42	37.62	54.00	-16.38	28.40	5.06	39.17	35.01	Average	100	154	VERTICAL
2	11225.42	49.27	74.00	-24.73	40.05	5.06	39.17	35.01	Peak	100	154	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 138 / Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11373.24	37.84	54.00	-16.16	28.49	5.09	39.29	35.03	Average	100	92	HORIZONTAL
2	11377.88	50.92	74.00	-23.08	41.57	5.09	39.29	35.03	Peak	100	92	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11370.64	37.60	54.00	-16.40	28.25	5.09	39.29	35.03	Average	100	185	VERTICAL
2	11378.46	50.66	74.00	-23.34	41.31	5.09	39.29	35.03	Peak	100	185	VERTICAL

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 52 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15778.68	62.28	74.00	-11.72	53.27	6.14	38.11	35.24	Peak	100	78	HORIZONTAL
2	15780.92	49.14	54.00	-4.86	40.13	6.14	38.11	35.24	Average	100	78	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15771.04	61.95	74.00	-12.05	52.93	6.14	38.11	35.23	Peak	109	139	VERTICAL
2	15778.60	48.90	54.00	-5.10	39.89	6.14	38.11	35.24	Average	109	139	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 60 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10598.16	52.91	74.00	-21.09	44.23	5.01	38.92	35.25	Peak	100	67	HORIZONTAL
2	10600.68	40.04	54.00	-13.96	31.36	5.01	38.92	35.25	Average	100	67	HORIZONTAL
3	15896.60	58.25	74.00	-15.75	49.42	6.15	37.94	35.26	Peak	113	78	HORIZONTAL
4	15897.00	44.05	54.00	-9.95	35.22	6.15	37.94	35.26	Average	113	78	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10599.80	38.80	54.00	-15.20	30.12	5.01	38.92	35.25	Average	101	360	VERTICAL
2	10599.88	51.25	74.00	-22.75	42.57	5.01	38.92	35.25	Peak	101	360	VERTICAL
3	15893.88	43.62	54.00	-10.38	34.79	6.15	37.94	35.26	Average	104	137	VERTICAL
4	15904.12	56.77	74.00	-17.23	47.96	6.15	37.92	35.26	Peak	104	137	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 64 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10635.96	50.46	74.00	-23.54	41.74	5.01	38.93	35.22	Peak	100	61	HORIZONTAL
2	10638.68	37.99	54.00	-16.01	29.27	5.01	38.93	35.22	Average	100	61	HORIZONTAL
3	15954.52	39.96	54.00	-14.04	31.24	6.15	37.85	35.28	Average	100	332	HORIZONTAL
4	15957.04	52.68	74.00	-21.32	43.96	6.15	37.85	35.28	Peak	100	332	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10639.76	37.42	54.00	-16.58	28.70	5.01	38.93	35.22	Average	100	360	VERTICAL
2	10642.20	49.75	74.00	-24.25	41.03	5.01	38.93	35.22	Peak	100	360	VERTICAL
3	15957.12	39.50	54.00	-14.50	30.78	6.15	37.85	35.28	Average	100	253	VERTICAL
4	15957.28	52.09	74.00	-21.91	43.37	6.15	37.85	35.28	Peak	100	253	VERTICAL

Temperature	24℃	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 100 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10999.88	37.10	54.00	-16.90	28.07	5.01	39.00	34.98	Average	100	154	HORIZONTAL
2	11001.56	49.77	74.00	-24.23	40.74	5.01	39.00	34.98	Peak	100	154	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11005.96	36.76	54.00	-17.24	27.72	5.01	39.01	34.98	Average	100	296	VERTICAL
2	11007.96	49.78	74.00	-24.22	40.74	5.01	39.01	34.98	Peak	100	296	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 116 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11160.12	43.40	54.00	-10.60	34.23	5.04	39.13	35.00	Average	100	6	HORIZONTAL
2	11160.24	56.19	74.00	-17.81	47.02	5.04	39.13	35.00	Peak	100	6	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11159.56	42.06	54.00	-11.94	32.89	5.04	39.13	35.00	Average	100	350	VERTICAL
2	11159.88	54.02	74.00	-19.98	44.85	5.04	39.13	35.00	Peak	100	350	VERTICAL

Temperature	24℃	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 140 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11400.20	38.41	54.00	-15.59	29.03	5.10	39.32	35.04	Average	100	140	HORIZONTAL
2	11409.80	51.45	74.00	-22.55	42.07	5.10	39.32	35.04	Peak	100	140	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11395.72	53.65	74.00	-20.35	44.27	5.10	39.32	35.04	Peak	100	1	VERTICAL
2	11399.36	40.03	54.00	-13.97	30.65	5.10	39.32	35.04	Average	100	1	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 144 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11439.00	49.58	54.00	-4.42	40.17	5.10	39.35	35.04	Average	156	94	HORIZONTAL
2	11441.36	64.18	74.00	-9.82	54.77	5.10	39.35	35.04	Peak	156	94	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11441.56	50.14	54.00	-3.86	40.73	5.10	39.35	35.04	Average	100	356	VERTICAL
2	11443.84	64.02	74.00	-9.98	54.60	5.11	39.35	35.04	Peak	100	356	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 54 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15812.05	51.60	74.00	-22.40	42.63	6.14	38.07	35.24	Peak	100	157	HORIZONTAL
2	15814.62	39.38	54.00	-14.62	30.41	6.14	38.07	35.24	Average	100	157	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15816.03	51.10	74.00	-22.90	42.16	6.14	38.04	35.24	Peak	100	283	VERTICAL
2	15818.72	39.35	54.00	-14.65	30.41	6.14	38.04	35.24	Average	100	283	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 62 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10621.57	50.41	74.00	-23.59	41.71	5.01	38.92	35.23	Peak	100	217	HORIZONTAL
2	10623.85	37.36	54.00	-16.64	28.66	5.01	38.92	35.23	Average	100	217	HORIZONTAL
3	15932.84	38.71	54.00	-15.29	29.94	6.15	37.90	35.28	Average	100	360	HORIZONTAL
4	15932.90	51.35	74.00	-22.65	42.58	6.15	37.90	35.28	Peak	100	360	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10620.03	37.58	54.00	-16.42	28.88	5.01	38.92	35.23	Average	100	304	VERTICAL
2	10620.80	49.79	74.00	-24.21	41.09	5.01	38.92	35.23	Peak	100	304	VERTICAL
3	15926.79	38.67	54.00	-15.33	29.89	6.15	37.90	35.27	Average	100	297	VERTICAL
4	15930.74	50.99	74.00	-23.01	42.22	6.15	37.90	35.28	Peak	100	297	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 102 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11018.14	37.92	54.00	-16.08	28.87	5.02	39.01	34.98	Average	100	202	HORIZONTAL
2	11018.94	50.50	74.00	-23.50	41.45	5.02	39.01	34.98	Peak	100	202	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11015.74	51.21	74.00	-22.79	42.16	5.02	39.01	34.98	Peak	100	249	VERTICAL
2	11016.52	37.77	54.00	-16.23	28.72	5.02	39.01	34.98	Average	100	249	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 110 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11102.69	38.17	54.00	-15.83	29.05	5.03	39.08	34.99	Average	100	111	HORIZONTAL
2	11102.77	50.71	74.00	-23.29	41.59	5.03	39.08	34.99	Peak	100	111	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11099.92	37.57	54.00	-16.43	28.45	5.03	39.08	34.99	Average	100	186	VERTICAL
2	11103.65	50.55	74.00	-23.45	41.43	5.03	39.08	34.99	Peak	100	186	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 134 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11338.72	52.22	74.00	-21.78	42.90	5.08	39.27	35.03	Peak	141	94	HORIZONTAL
2	11339.62	39.24	54.00	-14.76	29.92	5.08	39.27	35.03	Average	141	94	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11337.12	51.23	74.00	-22.77	41.91	5.08	39.27	35.03	Peak	100	360	VERTICAL
2	11344.39	38.95	54.00	-15.05	29.62	5.09	39.27	35.03	Average	100	360	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 142 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11416.60	58.75	74.00	-15.25	49.36	5.10	39.33	35.04	Peak	100	106	HORIZONTAL
2	11424.21	46.09	54.00	-7.91	36.70	5.10	39.33	35.04	Average	100	106	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11416.84	45.86	54.00	-8.14	36.47	5.10	39.33	35.04	Average	109	354	VERTICAL
2	11418.59	59.01	74.00	-14.99	49.62	5.10	39.33	35.04	Peak	109	354	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 58 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15868.19	50.40	74.00	-23.60	41.55	6.14	37.97	35.26	Peak	100	161	HORIZONTAL
2	15874.12	38.04	54.00	-15.96	29.19	6.14	37.97	35.26	Average	100	161	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15866.60	38.12	54.00	-15.88	29.27	6.14	37.97	35.26	Average	100	303	VERTICAL
2	15873.61	51.22	74.00	-22.78	42.37	6.14	37.97	35.26	Peak	100	303	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 106 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11055.10	51.06	74.00	-22.94	41.99	5.02	39.04	34.99	Peak	100	193	HORIZONTAL
2	11057.85	37.62	54.00	-16.38	28.54	5.02	39.05	34.99	Average	100	193	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11055.54	37.58	54.00	-16.42	28.50	5.02	39.05	34.99	Average	100	143	VERTICAL
2	11064.98	50.48	74.00	-23.52	41.39	5.03	39.05	34.99	Peak	100	143	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 122 / Chain 1 + Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11213.24	37.18	54.00	-16.82	27.96	5.06	39.17	35.01	Average	100	232	HORIZONTAL
2	11226.51	51.45	74.00	-22.55	42.21	5.06	39.19	35.01	Peak	100	232	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11225.13	51.20	74.00	-22.80	41.98	5.06	39.17	35.01	Peak	100	296	VERTICAL
2	11226.51	36.91	54.00	-17.09	27.67	5.06	39.19	35.01	Average	100	296	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 138 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11376.88	42.07	54.00	-11.93	32.72	5.09	39.29	35.03	Average	100	360	HORIZONTAL
2	11381.36	53.26	74.00	-20.74	43.89	5.09	39.31	35.03	Peak	100	360	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11378.62	50.96	74.00	-23.04	41.59	5.09	39.31	35.03	Peak	100	227	VERTICAL
2	11380.96	39.70	54.00	-14.30	30.33	5.09	39.31	35.03	Average	100	227	VERTICAL

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

<For Beamforming Mode>

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 52 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	15778.40	46.08	54.00	-7.92	34.61	7.93	38.48	34.94	Average	240	100	HORIZONTAL
2	15783.40	61.22	74.00	-12.78	49.75	7.94	38.47	34.94	Peak	240	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	15779.58	44.74	54.00	-9.26	33.27	7.93	38.48	34.94	Average	0	100	VERTICAL
2	15779.96	58.75	74.00	-15.25	47.28	7.93	38.48	34.94	Peak	0	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 60 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10600.22	41.84	54.00	-12.16	31.86	6.60	38.38	35.00	Average	285	100	HORIZONTAL
2	10600.68	55.12	74.00	-18.88	45.14	6.60	38.38	35.00	Peak	285	100	HORIZONTAL
3	15900.86	60.15	74.00	-13.85	48.83	7.98	38.37	35.03	Peak	46	100	HORIZONTAL
4	15903.48	46.01	54.00	-7.99	34.69	7.98	38.37	35.03	Average	46	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10599.02	54.21	74.00	-19.79	44.23	6.60	38.38	35.00	Peak	357	100	VERTICAL
2	10600.04	40.21	54.00	-13.79	30.23	6.60	38.38	35.00	Average	357	100	VERTICAL
3	15899.16	59.69	74.00	-14.31	48.37	7.97	38.38	35.03	Peak	231	100	VERTICAL
4	15901.28	46.23	54.00	-7.77	34.91	7.98	38.37	35.03	Average	231	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 64 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10637.88	54.45	74.00	-19.55	44.46	6.59	38.37	34.97	Peak	142	100	HORIZONTAL
2	10643.70	40.87	54.00	-13.13	30.88	6.59	38.37	34.97	Average	142	100	HORIZONTAL
3	15956.02	45.02	54.00	-8.98	33.79	8.00	38.33	35.10	Average	321	100	HORIZONTAL
4	15957.12	59.41	74.00	-14.59	48.18	8.00	38.33	35.10	Peak	321	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10636.10	40.21	54.00	-13.79	30.22	6.59	38.37	34.97	Average	254	100	VERTICAL
2	10640.64	54.01	74.00	-19.99	44.02	6.59	38.37	34.97	Peak	254	100	VERTICAL
3	15958.72	44.98	54.00	-9.02	33.75	8.00	38.33	35.10	Average	77	100	VERTICAL
4	15959.60	58.59	74.00	-15.41	47.36	8.00	38.33	35.10	Peak	77	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 100 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11000.58	54.02	74.00	-19.98	43.97	6.46	38.30	34.71	Peak	303	100	HORIZONTAL
2	11004.00	40.19	54.00	-13.81	30.14	6.46	38.30	34.71	Average	303	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10997.40	54.41	74.00	-19.59	44.36	6.46	38.30	34.71	Peak	62	100	VERTICAL
2	10999.78	40.13	54.00	-13.87	30.08	6.46	38.30	34.71	Average	62	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 116 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11156.22	40.50	54.00	-13.50	30.34	6.55	38.30	34.69	Average	54	100	HORIZONTAL
2	11160.24	54.51	74.00	-19.49	44.34	6.56	38.30	34.69	Peak	54	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11160.46	40.54	54.00	-13.46	30.37	6.56	38.30	34.69	Average	282	100	VERTICAL
2	11161.10	54.09	74.00	-19.91	43.92	6.56	38.30	34.69	Peak	282	100	VERTICAL

Temperature	24℃	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 140 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11399.50	54.04	74.00	-19.96	43.72	6.69	38.30	34.67	Peak	186	100	HORIZONTAL
2	11404.60	40.43	54.00	-13.57	30.11	6.69	38.30	34.67	Average	186	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11399.40	55.03	74.00	-18.97	44.71	6.69	38.30	34.67	Peak	107	100	VERTICAL
2	11404.54	40.51	54.00	-13.49	30.19	6.69	38.30	34.67	Average	107	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 144 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11436.48	60.43	74.00	-13.57	50.09	6.71	38.30	34.67	Peak	244	100	HORIZONTAL
2	11439.16	45.94	54.00	-8.06	35.60	6.71	38.30	34.67	Average	244	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11439.20	62.20	74.00	-11.80	51.86	6.71	38.30	34.67	Peak	19	100	VERTICAL
2	11439.20	47.30	54.00	-6.70	36.96	6.71	38.30	34.67	Average	19	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 54 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	15801.32	58.45	74.00	-15.55	46.99	7.95	38.45	34.94	Peak	186	100	HORIZONTAL
2	15818.48	45.50	54.00	-8.50	34.08	7.95	38.44	34.97	Average	186	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	15804.32	58.30	74.00	-15.70	46.87	7.95	38.45	34.97	Peak	333	100	VERTICAL
2	15818.60	44.73	54.00	-9.27	33.31	7.95	38.44	34.97	Average	333	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 62 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10620.08	40.77	54.00	-13.23	30.78	6.60	38.38	34.99	Average	208	100	HORIZONTAL
2	10621.40	54.14	74.00	-19.86	44.15	6.60	38.38	34.99	Peak	208	100	HORIZONTAL
3	15923.24	45.17	54.00	-8.83	33.87	7.99	38.36	35.05	Average	142	100	HORIZONTAL
4	15926.24	59.19	74.00	-14.81	47.89	7.99	38.36	35.05	Peak	142	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10611.36	40.57	54.00	-13.43	30.58	6.60	38.38	34.99	Average	163	100	VERTICAL
2	10619.56	54.43	74.00	-19.57	44.44	6.60	38.38	34.99	Peak	163	100	VERTICAL
3	15925.32	59.61	74.00	-14.39	48.31	7.99	38.36	35.05	Peak	66	100	VERTICAL
4	15925.96	45.20	54.00	-8.80	33.90	7.99	38.36	35.05	Average	66	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 102 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11019.88	40.18	54.00	-13.82	30.12	6.47	38.30	34.71	Average	265	100	HORIZONTAL
2	11020.28	54.35	74.00	-19.65	44.29	6.47	38.30	34.71	Peak	265	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11019.56	53.68	74.00	-20.32	43.62	6.47	38.30	34.71	Peak	157	100	VERTICAL
2	11019.96	40.26	54.00	-13.74	30.20	6.47	38.30	34.71	Average	157	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 110 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11091.28	55.00	74.00	-19.00	44.88	6.52	38.30	34.70	Peak	124	100	HORIZONTAL
2	11099.80	40.79	54.00	-13.21	30.67	6.52	38.30	34.70	Average	124	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11093.60	55.15	74.00	-18.85	45.03	6.52	38.30	34.70	Peak	271	100	VERTICAL
2	11099.88	40.63	54.00	-13.37	30.51	6.52	38.30	34.70	Average	271	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 134 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11342.48	54.75	74.00	-19.25	44.47	6.65	38.30	34.67	Peak	335	100	HORIZONTAL
2	11343.74	40.31	54.00	-13.69	30.03	6.65	38.30	34.67	Average	335	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11339.96	40.45	54.00	-13.55	30.18	6.65	38.30	34.68	Average	165	100	VERTICAL
2	11344.76	53.95	74.00	-20.05	43.66	6.66	38.30	34.67	Peak	165	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 142 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11418.64	58.04	74.00	-15.96	47.71	6.70	38.30	34.67	Peak	255	100	HORIZONTAL
2	11418.92	43.82	54.00	-10.18	33.49	6.70	38.30	34.67	Average	255	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11414.12	42.56	54.00	-11.44	32.23	6.70	38.30	34.67	Average	33	100	VERTICAL
2	11421.32	56.29	74.00	-17.71	45.96	6.70	38.30	34.67	Peak	33	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 58 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	15867.72	58.72	74.00	-15.28	47.36	7.97	38.40	35.01	Peak	71	100	HORIZONTAL
2	15867.86	44.75	54.00	-9.25	33.39	7.97	38.40	35.01	Average	71	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	15870.78	58.47	74.00	-15.53	47.11	7.97	38.40	35.01	Peak	170	100	VERTICAL
2	15870.82	44.70	54.00	-9.30	33.34	7.97	38.40	35.01	Average	170	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 106 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11064.04	40.40	54.00	-13.60	30.30	6.50	38.30	34.70	Average	135	100	HORIZONTAL
2	11064.94	53.85	74.00	-20.15	43.75	6.50	38.30	34.70	Peak	135	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11058.68	54.84	74.00	-19.16	44.74	6.50	38.30	34.70	Peak	252	100	VERTICAL
2	11064.22	40.40	54.00	-13.60	30.30	6.50	38.30	34.70	Average	252	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 122 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11220.76	40.26	54.00	-13.74	30.06	6.59	38.30	34.69	Average	152	100	HORIZONTAL
2	11221.52	53.63	74.00	-20.37	43.43	6.59	38.30	34.69	Peak	152	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11218.56	54.63	74.00	-19.37	44.43	6.59	38.30	34.69	Peak	256	100	VERTICAL
2	11219.92	40.35	54.00	-13.65	30.15	6.59	38.30	34.69	Average	256	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 138 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11379.46	40.44	54.00	-13.56	30.13	6.68	38.30	34.67	Average	286	100	HORIZONTAL
2	11382.14	53.93	74.00	-20.07	43.62	6.68	38.30	34.67	Peak	286	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11376.50	40.44	54.00	-13.56	30.14	6.67	38.30	34.67	Average	33	100	VERTICAL
2	11381.92	54.81	74.00	-19.19	44.50	6.68	38.30	34.67	Peak	33	100	VERTICAL

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 52 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15778.03	61.51	74.00	-12.49	52.50	6.14	38.11	35.24	Peak	101	80	HORIZONTAL
2	15780.87	48.12	54.00	-5.88	39.11	6.14	38.11	35.24	Average	101	80	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15777.10	63.92	74.00	-10.08	54.90	6.14	38.11	35.23	Peak	115	135	VERTICAL
2	15778.93	49.50	54.00	-4.50	40.49	6.14	38.11	35.24	Average	115	135	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 60 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10600.62	54.42	74.00	-19.58	45.74	5.01	38.92	35.25	Peak	103	282	HORIZONTAL
2	10600.80	42.22	54.00	-11.78	33.52	5.01	38.92	35.23	Average	103	282	HORIZONTAL
3	15895.00	41.22	54.00	-12.78	32.39	6.15	37.94	35.26	Average	103	340	HORIZONTAL
4	15898.45	54.66	74.00	-19.34	45.83	6.15	37.94	35.26	Peak	103	340	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10601.23	40.84	54.00	-13.16	32.14	5.01	38.92	35.23	Average	100	102	VERTICAL
2	10601.33	53.88	74.00	-20.12	45.18	5.01	38.92	35.23	Peak	100	102	VERTICAL
3	15899.42	54.07	74.00	-19.93	45.24	6.15	37.94	35.26	Peak	100	213	VERTICAL
4	15903.14	41.72	54.00	-12.28	32.91	6.15	37.92	35.26	Average	100	213	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 64 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10640.87	40.75	54.00	-13.25	32.03	5.01	38.93	35.22	Average	100	233	HORIZONTAL
2	10642.64	54.76	74.00	-19.24	46.04	5.01	38.93	35.22	Peak	100	233	HORIZONTAL
3	15957.52	41.52	54.00	-12.48	32.80	6.15	37.85	35.28	Average	100	73	HORIZONTAL
4	15957.77	53.95	74.00	-20.05	45.23	6.15	37.85	35.28	Peak	100	73	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10640.45	54.14	74.00	-19.86	45.42	5.01	38.93	35.22	Peak	100	265	VERTICAL
2	10641.59	39.99	54.00	-14.01	31.27	5.01	38.93	35.22	Average	100	265	VERTICAL
3	15955.08	41.45	54.00	-12.55	32.73	6.15	37.85	35.28	Average	100	177	VERTICAL
4	15956.25	54.49	74.00	-19.51	45.77	6.15	37.85	35.28	Peak	100	177	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 100 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10998.24	53.95	74.00	-20.05	44.92	5.01	39.00	34.98	Peak	100	71	HORIZONTAL
2	11000.35	41.63	54.00	-12.37	32.60	5.01	39.00	34.98	Average	100	71	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10996.12	54.62	74.00	-19.38	45.59	5.01	39.00	34.98	Peak	100	188	VERTICAL
2	11002.96	40.87	54.00	-13.13	31.84	5.01	39.00	34.98	Average	100	188	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 116 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11159.31	55.78	74.00	-18.22	46.61	5.04	39.13	35.00	Peak	100	226	HORIZONTAL
2	11160.42	43.47	54.00	-10.53	34.30	5.04	39.13	35.00	Average	100	226	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11157.69	40.96	54.00	-13.04	31.79	5.04	39.13	35.00	Average	100	124	VERTICAL
2	11159.65	53.31	74.00	-20.69	44.14	5.04	39.13	35.00	Peak	100	124	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 140 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11397.48	41.96	54.00	-12.04	32.58	5.10	39.32	35.04	Average	100	247	HORIZONTAL
2	11399.58	54.15	74.00	-19.85	44.77	5.10	39.32	35.04	Peak	100	247	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11400.24	53.91	74.00	-20.09	44.53	5.10	39.32	35.04	Peak	100	173	VERTICAL
2	11404.95	41.11	54.00	-12.89	31.73	5.10	39.32	35.04	Average	100	173	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 144 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11436.35	50.91	54.00	-3.09	41.50	5.10	39.35	35.04	Average	100	25	HORIZONTAL
2	11436.52	65.63	74.00	-8.37	56.22	5.10	39.35	35.04	Peak	100	25	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11439.02	50.88	54.00	-3.12	41.47	5.10	39.35	35.04	Average	100	233	VERTICAL
2	11441.65	65.81	74.00	-8.19	56.40	5.10	39.35	35.04	Peak	100	233	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 54 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15807.24	53.38	74.00	-20.62	44.41	6.14	38.07	35.24	Peak	100	253	HORIZONTAL
2	15814.81	41.27	54.00	-12.73	32.30	6.14	38.07	35.24	Average	100	253	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15812.50	53.81	74.00	-20.19	44.84	6.14	38.07	35.24	Peak	100	181	VERTICAL
2	15812.60	41.34	54.00	-12.66	32.37	6.14	38.07	35.24	Average	100	181	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 62 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10615.00	40.31	54.00	-13.69	31.61	5.01	38.92	35.23	Average	100	274	HORIZONTAL
2	10623.53	52.80	74.00	-21.20	44.10	5.01	38.92	35.23	Peak	100	274	HORIZONTAL
3	15928.72	54.78	74.00	-19.22	46.00	6.15	37.90	35.27	Peak	100	236	HORIZONTAL
4	15930.08	41.79	54.00	-12.21	33.01	6.15	37.90	35.27	Average	100	236	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10618.72	53.45	74.00	-20.55	44.75	5.01	38.92	35.23	Peak	100	241	VERTICAL
2	10623.14	40.34	54.00	-13.66	31.64	5.01	38.92	35.23	Average	100	241	VERTICAL
3	15928.00	54.48	74.00	-19.52	45.70	6.15	37.90	35.27	Peak	100	270	VERTICAL
4	15933.62	41.63	54.00	-12.37	32.86	6.15	37.90	35.28	Average	100	270	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 102 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11017.39	40.89	54.00	-13.11	31.84	5.02	39.01	34.98	Average	100	330	HORIZONTAL
2	11017.90	53.74	74.00	-20.26	44.69	5.02	39.01	34.98	Peak	100	330	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11017.47	40.81	54.00	-13.19	31.76	5.02	39.01	34.98	Average	100	229	VERTICAL
2	11021.44	53.10	74.00	-20.90	44.05	5.02	39.01	34.98	Peak	100	229	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 110 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11097.28	53.97	74.00	-20.03	44.85	5.03	39.08	34.99	Peak	100	75	HORIZONTAL
2	11101.89	40.53	54.00	-13.47	31.41	5.03	39.08	34.99	Average	100	75	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11104.21	53.11	74.00	-20.89	43.99	5.03	39.08	34.99	Peak	100	123	VERTICAL
2	11104.63	40.42	54.00	-13.58	31.30	5.03	39.08	34.99	Average	100	123	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 134 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11340.51	54.04	74.00	-19.96	44.71	5.09	39.27	35.03	Peak	100	213	HORIZONTAL
2	11343.89	40.95	54.00	-13.05	31.62	5.09	39.27	35.03	Average	100	213	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11343.32	54.52	74.00	-19.48	45.19	5.09	39.27	35.03	Peak	100	301	VERTICAL
2	11343.49	41.01	54.00	-12.99	31.68	5.09	39.27	35.03	Average	100	301	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 142 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11421.63	45.80	54.00	-8.20	36.41	5.10	39.33	35.04	Average	100	59	HORIZONTAL
2	11424.01	59.51	74.00	-14.49	50.12	5.10	39.33	35.04	Peak	100	59	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11421.07	44.01	54.00	-9.99	34.62	5.10	39.33	35.04	Average	100	228	VERTICAL
2	11421.20	55.93	74.00	-18.07	46.54	5.10	39.33	35.04	Peak	100	228	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 58 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15865.21	41.35	54.00	-12.65	32.48	6.14	37.99	35.26	Average	100	285	HORIZONTAL
2	15872.16	53.51	74.00	-20.49	44.66	6.14	37.97	35.26	Peak	100	285	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15872.15	54.85	74.00	-19.15	46.00	6.14	37.97	35.26	Peak	100	218	VERTICAL
2	15873.00	41.07	54.00	-12.93	32.22	6.14	37.97	35.26	Average	100	218	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 106 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11056.79	40.92	54.00	-13.08	31.84	5.02	39.05	34.99	Average	100	74	HORIZONTAL
2	11062.50	54.28	74.00	-19.72	45.19	5.03	39.05	34.99	Peak	100	74	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11057.40	53.96	74.00	-20.04	44.88	5.02	39.05	34.99	Peak	100	33	VERTICAL
2	11060.61	40.87	54.00	-13.13	31.78	5.03	39.05	34.99	Average	100	33	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 122 / Chain 1 + Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11213.24	39.92	54.00	-14.08	30.70	5.06	39.17	35.01	Average	100	209	HORIZONTAL
2	11213.24	53.31	74.00	-20.69	44.09	5.06	39.17	35.01	Peak	100	209	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11213.24	53.05	74.00	-20.95	43.83	5.06	39.17	35.01	Peak	100	307	VERTICAL
2	11228.62	40.99	54.00	-13.01	31.75	5.06	39.19	35.01	Average	100	307	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 138 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11375.71	53.41	74.00	-20.59	44.06	5.09	39.29	35.03	Peak	100	164	HORIZONTAL
2	11384.07	41.25	54.00	-12.75	31.88	5.09	39.31	35.03	Average	100	164	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11375.24	41.08	54.00	-12.92	31.73	5.09	39.29	35.03	Average	100	214	VERTICAL
2	11378.21	53.86	74.00	-20.14	44.51	5.09	39.29	35.03	Peak	100	214	VERTICAL

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

<For STBC Mode>

Temperature	24℃	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 52 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	15780.45	64.89	74.00	-9.11	53.42	7.93	38.48	34.94	Peak	46	100	HORIZONTAL
2	15781.76	50.71	54.00	-3.29	39.24	7.94	38.47	34.94	Average	46	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	15778.40	50.80	54.00	-3.20	39.33	7.93	38.48	34.94	Average	238	127	VERTICAL
2	15780.35	64.66	74.00	-9.34	53.19	7.93	38.48	34.94	Peak	238	127	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 60 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10597.66	57.20	74.00	-16.80	47.22	6.60	38.38	35.00	Peak	54	100	HORIZONTAL
2	10600.99	43.06	54.00	-10.94	33.07	6.60	38.38	34.99	Average	54	100	HORIZONTAL
3	15901.06	63.07	74.00	-10.93	51.75	7.98	38.37	35.03	Peak	241	100	HORIZONTAL
4	15903.33	48.48	54.00	-5.52	37.16	7.98	38.37	35.03	Average	241	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10596.44	54.88	74.00	-19.12	44.89	6.61	38.38	35.00	Peak	297	100	VERTICAL
2	10601.63	40.64	54.00	-13.36	30.65	6.60	38.38	34.99	Average	297	100	VERTICAL
3	15898.78	63.65	74.00	-10.35	52.33	7.97	38.38	35.03	Peak	238	133	VERTICAL
4	15899.10	48.45	54.00	-5.55	37.13	7.97	38.38	35.03	Average	238	133	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 64 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10640.00	39.44	54.00	-14.56	29.45	6.59	38.37	34.97	Average	350	100	HORIZONTAL
2	10642.91	53.10	74.00	-20.90	43.11	6.59	38.37	34.97	Peak	350	100	HORIZONTAL
3	15959.46	54.97	74.00	-19.03	43.74	8.00	38.33	35.10	Peak	2	100	HORIZONTAL
4	15959.91	41.99	54.00	-12.01	30.76	8.00	38.33	35.10	Average	2	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10636.37	38.43	54.00	-15.57	28.44	6.59	38.37	34.97	Average	212	100	VERTICAL
2	10639.97	52.55	74.00	-21.45	42.56	6.59	38.37	34.97	Peak	212	100	VERTICAL
3	15959.65	42.11	54.00	-11.89	30.88	8.00	38.33	35.10	Average	249	100	VERTICAL
4	15963.72	56.63	74.00	-17.37	45.40	8.00	38.33	35.10	Peak	249	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 100 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10999.92	38.45	54.00	-15.55	28.40	6.46	38.30	34.71	Average	56	100	HORIZONTAL
2	11001.87	52.34	74.00	-21.66	42.29	6.46	38.30	34.71	Peak	56	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10996.44	52.18	74.00	-21.82	42.13	6.46	38.30	34.71	Peak	280	100	VERTICAL
2	10999.68	38.43	54.00	-15.57	28.38	6.46	38.30	34.71	Average	280	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 116 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11159.92	38.06	54.00	-15.94	27.89	6.56	38.30	34.69	Average	304	100	HORIZONTAL
2	11162.88	51.53	74.00	-22.47	41.36	6.56	38.30	34.69	Peak	304	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11156.29	52.28	74.00	-21.72	42.12	6.55	38.30	34.69	Peak	62	100	VERTICAL
2	11159.86	38.35	54.00	-15.65	28.18	6.56	38.30	34.69	Average	62	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 140 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11398.18	52.18	74.00	-21.82	41.86	6.69	38.30	34.67	Peak	208	100	HORIZONTAL
2	11399.76	38.42	54.00	-15.58	28.10	6.69	38.30	34.67	Average	208	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11402.68	53.24	74.00	-20.76	42.92	6.69	38.30	34.67	Peak	111	100	VERTICAL
2	11403.46	38.24	54.00	-15.76	27.92	6.69	38.30	34.67	Average	111	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 144 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11438.58	59.78	74.00	-14.22	49.44	6.71	38.30	34.67	Peak	318	100	HORIZONTAL
2	11438.88	45.10	54.00	-8.90	34.76	6.71	38.30	34.67	Average	318	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11438.60	60.96	74.00	-13.04	50.62	6.71	38.30	34.67	Peak	20	100	VERTICAL
2	11438.79	45.82	54.00	-8.18	35.48	6.71	38.30	34.67	Average	20	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 54 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	15806.21	57.71	74.00	-16.29	46.28	7.95	38.45	34.97	Peak	284	128	HORIZONTAL
2	15809.50	42.83	54.00	-11.17	31.40	7.95	38.45	34.97	Average	284	128	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	15806.36	42.81	54.00	-11.19	31.38	7.95	38.45	34.97	Average	238	100	VERTICAL
2	15810.13	57.17	74.00	-16.83	45.74	7.95	38.45	34.97	Peak	238	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 62 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10620.03	38.45	54.00	-15.55	28.46	6.60	38.38	34.99	Average	57	100	HORIZONTAL
2	10622.74	52.27	74.00	-21.73	42.28	6.60	38.38	34.99	Peak	57	100	HORIZONTAL
3	15929.40	40.00	54.00	-14.00	28.70	7.99	38.36	35.05	Average	176	100	HORIZONTAL
4	15933.21	53.41	74.00	-20.59	42.14	7.99	38.36	35.08	Peak	176	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	10620.00	38.40	54.00	-15.60	28.41	6.60	38.38	34.99	Average	7	100	VERTICAL
2	10623.06	53.45	74.00	-20.55	43.46	6.60	38.38	34.99	Peak	7	100	VERTICAL
3	15926.64	54.34	74.00	-19.66	43.04	7.99	38.36	35.05	Peak	239	100	VERTICAL
4	15927.44	40.04	54.00	-13.96	28.74	7.99	38.36	35.05	Average	239	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 102 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11017.65	52.26	74.00	-21.74	42.20	6.47	38.30	34.71	Peak	223	100	HORIZONTAL
2	11019.73	38.21	54.00	-15.79	28.15	6.47	38.30	34.71	Average	223	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11019.23	52.45	74.00	-21.55	42.39	6.47	38.30	34.71	Peak	311	100	VERTICAL
2	11019.72	38.29	54.00	-15.71	28.23	6.47	38.30	34.71	Average	311	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 110 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11097.46	52.59	74.00	-21.41	42.47	6.52	38.30	34.70	Peak	280	100	HORIZONTAL
2	11099.82	38.11	54.00	-15.89	27.99	6.52	38.30	34.70	Average	280	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11099.83	38.26	54.00	-15.74	28.14	6.52	38.30	34.70	Average	50	100	VERTICAL
2	11103.31	52.67	74.00	-21.33	42.55	6.52	38.30	34.70	Peak	50	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 134 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11339.76	38.02	54.00	-15.98	27.75	6.65	38.30	34.68	Average	62	100	HORIZONTAL
2	11341.88	51.87	74.00	-22.13	41.59	6.65	38.30	34.67	Peak	62	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11336.53	37.86	54.00	-16.14	27.59	6.65	38.30	34.68	Average	267	100	VERTICAL
2	11342.96	51.53	74.00	-22.47	41.25	6.65	38.30	34.67	Peak	267	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 142 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11418.73	58.18	74.00	-15.82	47.85	6.70	38.30	34.67	Peak	320	100	HORIZONTAL
2	11419.83	41.99	54.00	-12.01	31.66	6.70	38.30	34.67	Average	320	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11418.69	59.43	74.00	-14.57	49.10	6.70	38.30	34.67	Peak	22	100	VERTICAL
2	11418.87	42.55	54.00	-11.45	32.22	6.70	38.30	34.67	Average	22	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 58 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	15866.35	40.04	54.00	-13.96	28.68	7.96	38.41	35.01	Average	202	100	HORIZONTAL
2	15869.90	54.06	74.00	-19.94	42.70	7.97	38.40	35.01	Peak	202	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	15867.81	39.97	54.00	-14.03	28.61	7.97	38.40	35.01	Average	48	100	VERTICAL
2	15871.37	53.94	74.00	-20.06	42.58	7.97	38.40	35.01	Peak	48	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 106 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11058.19	52.02	74.00	-21.98	41.92	6.50	38.30	34.70	Peak	293	100	HORIZONTAL
2	11059.31	38.05	54.00	-15.95	27.95	6.50	38.30	34.70	Average	293	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11060.01	38.11	54.00	-15.89	28.01	6.50	38.30	34.70	Average	110	100	VERTICAL
2	11061.49	52.25	74.00	-21.75	42.15	6.50	38.30	34.70	Peak	110	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 122 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11198.29	51.38	74.00	-22.62	41.19	6.58	38.30	34.69	Peak	138	100	HORIZONTAL
2	11243.40	37.82	54.00	-16.18	27.59	6.61	38.30	34.68	Average	138	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11231.46	51.86	74.00	-22.14	41.65	6.60	38.30	34.69	Peak	282	100	VERTICAL
2	11239.07	37.85	54.00	-16.15	27.63	6.60	38.30	34.68	Average	282	100	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 138 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11379.82	38.44	54.00	-15.56	28.13	6.68	38.30	34.67	Average	70	100	HORIZONTAL
2	11382.69	51.82	74.00	-22.18	41.51	6.68	38.30	34.67	Peak	70	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	11377.85	38.82	54.00	-15.18	28.52	6.67	38.30	34.67	Average	315	100	VERTICAL
2	11379.35	52.68	74.00	-21.32	42.37	6.68	38.30	34.67	Peak	315	100	VERTICAL

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 52 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15776.02	49.88	54.00	-4.12	40.86	6.14	38.11	35.23	Average	102	75	HORIZONTAL
2	15778.24	62.83	74.00	-11.17	53.82	6.14	38.11	35.24	Peak	102	75	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15778.54	59.79	74.00	-14.21	50.78	6.14	38.11	35.24	Peak	143	138	VERTICAL
2	15779.68	47.32	54.00	-6.68	38.31	6.14	38.11	35.24	Average	143	138	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 60 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10599.70	39.51	54.00	-14.49	30.83	5.01	38.92	35.25	Average	101	63	HORIZONTAL
2	10604.82	53.28	74.00	-20.72	44.58	5.01	38.92	35.23	Peak	101	63	HORIZONTAL
3	15895.10	59.81	74.00	-14.19	50.98	6.15	37.94	35.26	Peak	117	349	HORIZONTAL
4	15900.06	45.78	54.00	-8.22	36.95	6.15	37.94	35.26	Average	117	349	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10600.82	36.27	54.00	-17.73	27.57	5.01	38.92	35.23	Average	100	140	VERTICAL
2	10604.08	49.40	74.00	-24.60	40.70	5.01	38.92	35.23	Peak	100	140	VERTICAL
3	15895.04	59.49	74.00	-14.51	50.66	6.15	37.94	35.26	Peak	117	349	VERTICAL
4	15898.80	45.67	54.00	-8.33	36.84	6.15	37.94	35.26	Average	117	349	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 64 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10639.74	36.32	54.00	-17.68	27.60	5.01	38.93	35.22	Average	100	164	HORIZONTAL
2	10644.24	49.39	74.00	-24.61	40.67	5.01	38.93	35.22	Peak	100	164	HORIZONTAL
3	15956.74	39.97	54.00	-14.03	31.25	6.15	37.85	35.28	Average	100	164	HORIZONTAL
4	15961.52	53.09	74.00	-20.91	44.37	6.15	37.85	35.28	Peak	100	164	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10639.78	36.48	54.00	-17.52	27.76	5.01	38.93	35.22	Average	100	215	VERTICAL
2	10642.72	53.54	74.00	-20.46	44.82	5.01	38.93	35.22	Peak	100	215	VERTICAL
3	15958.52	40.13	54.00	-13.87	31.41	6.15	37.85	35.28	Average	100	207	VERTICAL
4	15959.32	53.25	74.00	-20.75	44.53	6.15	37.85	35.28	Peak	100	207	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 100 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10998.42	50.34	74.00	-23.66	41.31	5.01	39.00	34.98	Peak	100	22	HORIZONTAL
2	11002.80	37.44	54.00	-16.56	28.41	5.01	39.00	34.98	Average	100	22	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10997.82	49.50	74.00	-24.50	40.47	5.01	39.00	34.98	Peak	100	58	VERTICAL
2	11000.04	36.74	54.00	-17.26	27.71	5.01	39.00	34.98	Average	100	58	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 116 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11159.68	56.97	74.00	-17.03	47.80	5.04	39.13	35.00	Peak	100	111	HORIZONTAL
2	11160.90	44.06	54.00	-9.94	34.89	5.04	39.13	35.00	Average	100	111	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11160.42	42.58	54.00	-11.42	33.41	5.04	39.13	35.00	Average	100	346	VERTICAL
2	11161.16	56.65	74.00	-17.35	47.48	5.04	39.13	35.00	Peak	100	346	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 140 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11397.84	51.61	74.00	-22.39	42.23	5.10	39.32	35.04	Peak	100	61	HORIZONTAL
2	11398.62	38.01	54.00	-15.99	28.63	5.10	39.32	35.04	Average	100	61	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11398.58	38.50	54.00	-15.50	29.12	5.10	39.32	35.04	Average	100	74	VERTICAL
2	11402.20	50.67	74.00	-23.33	41.29	5.10	39.32	35.04	Peak	100	74	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 144 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11439.76	49.29	54.00	-4.71	39.88	5.10	39.35	35.04	Average	100	103	HORIZONTAL
2	11441.12	62.47	74.00	-11.53	53.06	5.10	39.35	35.04	Peak	100	103	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11438.64	61.81	74.00	-12.19	52.40	5.10	39.35	35.04	Peak	100	356	VERTICAL
2	11438.72	49.71	54.00	-4.29	40.30	5.10	39.35	35.04	Average	100	356	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 54 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15803.44	55.45	74.00	-18.55	46.48	6.14	38.07	35.24	Peak	100	78	HORIZONTAL
2	15804.48	42.00	54.00	-12.00	33.03	6.14	38.07	35.24	Average	100	78	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15812.20	55.28	74.00	-18.72	46.31	6.14	38.07	35.24	Peak	100	144	VERTICAL
2	15817.56	42.00	54.00	-12.00	33.06	6.14	38.04	35.24	Average	100	144	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 62 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10619.80	35.99	54.00	-18.01	27.29	5.01	38.92	35.23	Average	100	53	HORIZONTAL
2	10628.28	48.67	74.00	-25.33	39.96	5.01	38.92	35.22	Peak	100	53	HORIZONTAL
3	15923.24	39.85	54.00	-14.15	31.07	6.15	37.90	35.27	Average	100	150	HORIZONTAL
4	15934.68	52.86	74.00	-21.14	44.12	6.15	37.87	35.28	Peak	100	150	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10618.04	48.48	74.00	-25.52	39.78	5.01	38.92	35.23	Peak	100	192	VERTICAL
2	10626.04	35.84	54.00	-18.16	27.14	5.01	38.92	35.23	Average	100	192	VERTICAL
3	15924.24	52.91	74.00	-21.09	44.13	6.15	37.90	35.27	Peak	100	106	VERTICAL
4	15937.44	39.85	54.00	-14.15	31.11	6.15	37.87	35.28	Average	100	106	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 102 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11024.72	49.72	74.00	-24.28	40.65	5.02	39.03	34.98	Peak	100	72	HORIZONTAL
2	11028.88	40.81	54.00	-13.19	31.74	5.02	39.03	34.98	Average	100	72	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11016.52	39.91	54.00	-14.09	30.86	5.02	39.01	34.98	Average	100	116	VERTICAL
2	11024.88	50.65	74.00	-23.35	41.58	5.02	39.03	34.98	Peak	100	116	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 110 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11098.20	51.27	74.00	-22.73	42.15	5.03	39.08	34.99	Peak	100	359	HORIZONTAL
2	11107.80	38.22	54.00	-15.78	29.09	5.03	39.09	34.99	Average	100	359	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11098.92	37.56	54.00	-16.44	28.44	5.03	39.08	34.99	Average	100	295	VERTICAL
2	11106.24	50.17	74.00	-23.83	41.05	5.03	39.08	34.99	Peak	100	295	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 134 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11335.32	38.71	54.00	-15.29	29.39	5.08	39.27	35.03	Average	100	243	HORIZONTAL
2	11342.00	49.86	74.00	-24.14	40.53	5.09	39.27	35.03	Peak	100	243	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11335.28	38.49	54.00	-15.51	29.17	5.08	39.27	35.03	Average	100	142	VERTICAL
2	11347.68	49.88	74.00	-24.12	40.54	5.09	39.28	35.03	Peak	100	142	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 142 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11423.16	58.13	74.00	-15.87	48.74	5.10	39.33	35.04	Peak	100	104	HORIZONTAL
2	11427.88	43.91	54.00	-10.09	34.52	5.10	39.33	35.04	Average	100	104	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11418.68	59.48	74.00	-14.52	50.09	5.10	39.33	35.04	Peak	100	360	VERTICAL
2	11422.64	44.70	54.00	-9.30	35.31	5.10	39.33	35.04	Average	100	360	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 58 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15873.56	53.22	74.00	-20.78	44.37	6.14	37.97	35.26	Peak	100	59	HORIZONTAL
2	15878.52	40.71	54.00	-13.29	31.86	6.14	37.97	35.26	Average	100	59	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15877.88	40.40	54.00	-13.60	31.55	6.14	37.97	35.26	Average	100	128	VERTICAL
2	15879.36	53.51	74.00	-20.49	44.65	6.15	37.97	35.26	Peak	100	128	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 106 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11053.04	37.07	54.00	-16.93	28.00	5.02	39.04	34.99	Average	100	182	HORIZONTAL
2	11057.52	50.12	74.00	-23.88	41.04	5.02	39.05	34.99	Peak	100	182	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11061.36	37.05	54.00	-16.95	27.96	5.03	39.05	34.99	Average	100	109	VERTICAL
2	11063.16	50.17	74.00	-23.83	41.08	5.03	39.05	34.99	Peak	100	109	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 122 / Chain 1 + Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11216.60	50.93	74.00	-23.07	41.71	5.06	39.17	35.01	Peak	100	145	HORIZONTAL
2	11219.23	37.68	54.00	-16.32	28.46	5.06	39.17	35.01	Average	100	145	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11219.23	51.29	74.00	-22.71	42.07	5.06	39.17	35.01	Peak	100	306	VERTICAL
2	11228.14	37.46	54.00	-16.54	28.22	5.06	39.19	35.01	Average	100	306	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 138 / Chain 1 + Chain 2
Test Date	Jun. 12, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11375.88	53.31	74.00	-20.69	43.96	5.09	39.29	35.03	Peak	100	83	HORIZONTAL
2	11380.84	39.97	54.00	-14.03	30.60	5.09	39.31	35.03	Average	100	83	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11378.44	40.78	54.00	-13.22	31.43	5.09	39.29	35.03	Average	100	1	VERTICAL
2	11379.08	53.83	74.00	-20.17	44.46	5.09	39.31	35.03	Peak	100	1	VERTICAL

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

4.6. Band Edge Emissions Measurement

4.6.1. Limit

For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

For transmitters operating in the 5.470-5.725 GHz band: all emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

In addition, In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

4.6.2. Measuring Instruments and Setting

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

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	100 MHz
RBW / VBW (Emission in restricted band)	1MHz / 3MHz for Peak, 1MHz / 10Hz for Average
RBW / VBW (Emission in non-restricted band)	1MHz / 3MHz for Peak

4.6.3. Test Procedures

1. The test procedure is the same as section 4.5.3, only the frequency range investigated is limited to 100MHz around bandedges.

4.6.4. Test Setup Layout

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

4.6.5. Test Deviation

There is no deviation with the original standard.

4.6.6. EUT Operation during Test

For Non-beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

For beamforming mode:

The EUT was programmed to be in beamforming transmitting mode.

For STBC mode:

The EUT was programmed to be in continuously transmitting mode.

4.6.7. Test Result of Band Edge and Fundamental Emissions

<For Non-Beamforming Mode>

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 52, 60, 64 / Chain 2
Test Date	Jun. 03, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Channel 52

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5131.57	64.55	74.00	-9.45	61.94	3.43	34.09	34.91	Peak	116	245	VERTICAL
2	5132.37	52.64	54.00	-1.36	50.03	3.43	34.09	34.91	Average	116	245	VERTICAL
3	5256.80	121.69			118.89	3.46	34.25	34.91	Peak	116	245	VERTICAL
4	5258.40	110.16			107.36	3.46	34.25	34.91	Average	116	245	VERTICAL
5	5374.84	50.44	54.00	-3.56	47.45	3.50	34.41	34.92	Average	116	245	VERTICAL
6	5376.44	62.45	74.00	-11.55	59.46	3.50	34.41	34.92	Peak	116	245	VERTICAL

Item 3, 4 are the fundamental frequency at 5260 MHz.

Channel 60

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5298.40	108.47			105.58	3.48	34.32	34.91	Average	100	299	VERTICAL
2	5298.40	119.72			116.83	3.48	34.32	34.91	Peak	100	299	VERTICAL
3	5350.00	52.75	54.00	-1.25	49.78	3.49	34.39	34.91	Average	100	299	VERTICAL
4	5352.24	69.32	74.00	-4.68	66.35	3.49	34.39	34.91	Peak	100	299	VERTICAL

Item 1, 2 are the fundamental frequency at 5300 MHz.

Channel 64

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5321.28	105.65			102.74	3.48	34.34	34.91	Average	100	300	VERTICAL
2	5322.56	117.14			114.22	3.49	34.34	34.91	Peak	100	300	VERTICAL
3	5350.00	52.59	54.00	-1.41	49.62	3.49	34.39	34.91	Average	100	300	VERTICAL
4	5351.92	70.30	74.00	-3.70	67.33	3.49	34.39	34.91	Peak	100	300	VERTICAL

Item 1, 2 are the fundamental frequency at 5320 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 100, 116, 140 / Chain 2
Test Date	Jun. 03, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Channel 100

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5458.40	46.92	54.00	-7.08	43.79	3.52	34.53	34.92	Average	100	122	VERTICAL
2	5458.40	66.47	74.00	-7.53	63.34	3.52	34.53	34.92	Peak	100	122	VERTICAL
3	5467.76	72.51	74.00	-1.49	69.36	3.52	34.55	34.92	Peak	100	122	VERTICAL
4	5470.00	50.65	54.00	-3.35	47.50	3.52	34.55	34.92	Average	100	122	VERTICAL
5	5501.28	104.67			101.45	3.54	34.60	34.92	Average	100	122	VERTICAL
6	5502.24	116.30			113.08	3.54	34.60	34.92	Peak	100	122	VERTICAL

Item 5, 6 are the fundamental frequency at 5500 MHz.

Channel 116

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5457.98	52.42	54.00	-1.58	49.29	3.52	34.53	34.92	Average	100	57	VERTICAL
2	5460.00	63.06	74.00	-10.94	59.93	3.52	34.53	34.92	Peak	100	57	VERTICAL
3	5460.39	52.69	54.00	-1.31	49.56	3.52	34.53	34.92	Average	100	57	VERTICAL
4	5467.60	64.05	74.00	-9.95	60.90	3.52	34.55	34.92	Peak	100	57	VERTICAL
5	5581.60	105.45			102.19	3.56	34.63	34.93	Average	100	57	VERTICAL
6	5581.60	115.19			111.93	3.56	34.63	34.93	Peak	100	57	VERTICAL

Item 5, 6 are the fundamental frequency at 5580 MHz.

Channel 140

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5697.92	112.85			109.52	3.59	34.68	34.94	Peak	124	243	VERTICAL
2	5698.56	101.08			97.75	3.59	34.68	34.94	Average	124	243	VERTICAL
3	5725.00	48.25	54.00	-5.75	44.90	3.60	34.69	34.94	Average	124	243	VERTICAL
4	5725.16	72.31	74.00	-1.69	68.96	3.60	34.69	34.94	Peak	124	243	VERTICAL

Item 1, 2 are the fundamental frequency at 5700 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 144 / Chain 2
Test Date	Jun. 06, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Channel 144

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5720.80	118.75			115.40	3.60	34.69	34.94	Peak	100	62	VERTICAL
2	5721.60	107.78			104.43	3.60	34.69	34.94	Average	100	62	VERTICAL
3	5850.00	49.02	54.00	-4.98	45.59	3.64	34.74	34.95	Average	100	62	VERTICAL
4	5850.00	60.97	74.00	-13.03	57.54	3.64	34.74	34.95	Peak	100	62	VERTICAL

Item 1, 2 are the fundamental frequency at 5720 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 54, 62 / Chain 2
Test Date	Jun. 03, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Channel 54

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5273.85	104.26			101.43	3.47	34.27	34.91	Average	100	299	VERTICAL
2	5274.49	117.40			114.57	3.47	34.27	34.91	Peak	100	299	VERTICAL
3	5351.60	52.78	54.00	-1.22	49.81	3.49	34.39	34.91	Average	100	299	VERTICAL
4	5353.53	68.63	74.00	-5.37	65.66	3.49	34.39	34.91	Peak	100	299	VERTICAL

Item 1, 2 are the fundamental frequency at 5270 MHz.

Channel 62

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5314.17	109.43			106.52	3.48	34.34	34.91	Peak	101	57	VERTICAL
2	5314.49	97.67			94.76	3.48	34.34	34.91	Average	101	57	VERTICAL
3	5350.00	52.74	54.00	-1.26	49.77	3.49	34.39	34.91	Average	101	57	VERTICAL
4	5351.92	69.87	74.00	-4.13	66.90	3.49	34.39	34.91	Peak	101	57	VERTICAL

Item 1, 2 are the fundamental frequency at 5310 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 102, 110, 134 / Chain 2
Test Date	Jun. 03, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Channel 102

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5458.72	48.09	54.00	-5.91	44.96	3.52	34.53	34.92	Average	100	54	VERTICAL
2	5458.72	70.66	74.00	-3.34	67.53	3.52	34.53	34.92	Peak	100	54	VERTICAL
3	5469.04	72.41	74.00	-1.59	69.26	3.52	34.55	34.92	Peak	100	54	VERTICAL
4	5470.00	51.70	54.00	-2.30	48.55	3.52	34.55	34.92	Average	100	54	VERTICAL
5	5514.49	98.27			95.04	3.54	34.61	34.92	Average	100	54	VERTICAL
6	5524.42	110.95			107.72	3.54	34.61	34.92	Peak	100	54	VERTICAL

Item 5, 6 are the fundamental frequency at 5510 MHz.

Channel 110

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5458.08	69.49	74.00	-4.51	66.36	3.52	34.53	34.92	Peak	100	124	VERTICAL
2	5460.00	51.82	54.00	-2.18	48.69	3.52	34.53	34.92	Average	100	124	VERTICAL
3	5465.67	52.92	54.00	-1.08	49.77	3.52	34.55	34.92	Average	100	124	VERTICAL
4	5468.56	70.30	74.00	-3.70	67.15	3.52	34.55	34.92	Peak	100	124	VERTICAL
5	5554.81	103.18			99.94	3.55	34.62	34.93	Average	100	124	VERTICAL
6	5554.81	115.45			112.21	3.55	34.62	34.93	Peak	100	124	VERTICAL

Item 5, 6 are the fundamental frequency at 5550 MHz.

Channel 134

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5681.86	109.94			106.62	3.59	34.67	34.94	Peak	100	107	VERTICAL
2	5683.78	100.12			96.79	3.59	34.68	34.94	Average	100	107	VERTICAL
3	5725.00	52.23	54.00	-1.77	48.88	3.60	34.69	34.94	Average	100	107	VERTICAL
4	5726.28	69.31	74.00	-4.69	65.96	3.60	34.69	34.94	Peak	100	107	VERTICAL

Item 1, 2 are the fundamental frequency at 5670 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 142 / Chain 2
Test Date	Jun. 06, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Channel 142

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5714.81	103.33			99.99	3.60	34.68	34.94	Average	101	250	VERTICAL
2	5718.01	115.59			112.24	3.60	34.69	34.94	Peak	101	250	VERTICAL
3	5866.03	66.94	68.20	-1.26	63.50	3.65	34.74	34.95	Peak	101	250	VERTICAL

Item 1, 2 are the fundamental frequency at 5710 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 58, 106 / Chain 2
Test Date	Jun. 03, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Channel 58

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5143.59	54.83	74.00	-19.17	52.20	3.43	34.11	34.91	Peak	100	301	VERTICAL
2	5150.00	43.63	54.00	-10.37	41.00	3.43	34.11	34.91	Average	100	301	VERTICAL
3	5283.59	92.18			89.32	3.47	34.30	34.91	Average	100	301	VERTICAL
4	5285.99	105.62			102.76	3.47	34.30	34.91	Peak	100	301	VERTICAL
5	5353.21	52.40	54.00	-1.60	49.43	3.49	34.39	34.91	Average	100	301	VERTICAL
6	5354.01	68.85	74.00	-5.15	65.88	3.49	34.39	34.91	Peak	100	301	VERTICAL

Item 3, 4 are the fundamental frequency at 5290 MHz.

Channel 106

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5452.79	72.48	74.00	-1.52	69.35	3.52	34.53	34.92	Peak	100	58	VERTICAL
2	5460.00	51.19	54.00	-2.81	48.06	3.52	34.53	34.92	Average	100	58	VERTICAL
3	5467.60	71.94	74.00	-2.06	68.79	3.52	34.55	34.92	Peak	100	58	VERTICAL
4	5470.00	52.36	54.00	-1.64	49.21	3.52	34.55	34.92	Average	100	58	VERTICAL
5	5541.22	93.31			90.07	3.55	34.61	34.92	Average	100	58	VERTICAL
6	5546.03	106.38			103.14	3.55	34.61	34.92	Peak	100	58	VERTICAL

Item 5, 6 are the fundamental frequency at 5530 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 122, 138 / Chain 2
Test Date	Jun. 04, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Channel 122

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5460.00	51.22	54.00	-2.78	48.09	3.52	34.53	34.92	Average	100	146	VERTICAL
2	5460.00	67.27	74.00	-6.73	64.14	3.52	34.53	34.92	Peak	100	146	VERTICAL
3	5468.40	67.40	74.00	-6.60	64.25	3.52	34.55	34.92	Peak	100	146	VERTICAL
4	5470.00	52.62	54.00	-1.38	49.47	3.52	34.55	34.92	Average	100	146	VERTICAL
5	5596.38	95.38			92.12	3.56	34.63	34.93	Average	100	146	VERTICAL
6	5600.39	107.95			104.68	3.56	34.64	34.93	Peak	100	146	VERTICAL
7	5725.00	51.40	54.00	-2.60	48.05	3.60	34.69	34.94	Average	100	146	VERTICAL
8	5726.60	64.22	74.00	-9.78	60.87	3.60	34.69	34.94	Peak	100	146	VERTICAL

Item 5, 6 are the fundamental frequency at 5610 MHz.

Channel 138

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5698.01	97.66			94.33	3.59	34.68	34.94	Average	106	59	VERTICAL
2	5701.22	111.96			108.63	3.59	34.68	34.94	Peak	106	59	VERTICAL
3	5850.00	52.57	54.00	-1.43	49.14	3.64	34.74	34.95	Average	106	59	VERTICAL
4	5851.60	68.25	74.00	-5.75	64.82	3.64	34.74	34.95	Peak	106	59	VERTICAL

Item 1, 2 are the fundamental frequency at 5690 MHz.

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m)

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 52, 60, 64 / Chain 1 + Chain 2
Test Date	Jun. 04, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Channel 52

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5141.00	52.55	54.00	-1.45	49.92	3.43	34.11	34.91	Average	100	119	VERTICAL
2	5143.00	63.59	74.00	-10.41	60.96	3.43	34.11	34.91	Peak	100	119	VERTICAL
3	5261.00	107.96			105.14	3.46	34.27	34.91	Average	100	119	VERTICAL
4	5264.00	118.78			115.96	3.46	34.27	34.91	Peak	100	119	VERTICAL
5	5373.00	51.54	54.00	-2.46	48.55	3.49	34.41	34.91	Average	100	119	VERTICAL
6	5378.00	62.49	74.00	-11.51	59.47	3.50	34.44	34.92	Peak	100	119	VERTICAL

Item 3, 4 are the fundamental frequency at 5260 MHz.

Channel 60

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5299.20	106.26			103.37	3.48	34.32	34.91	Average	100	54	VERTICAL
2	5301.20	116.74			113.85	3.48	34.32	34.91	Peak	100	54	VERTICAL
3	5371.20	65.48	74.00	-8.52	62.49	3.49	34.41	34.91	Peak	100	54	VERTICAL
4	5381.60	52.83	54.00	-1.17	49.81	3.50	34.44	34.92	Average	100	54	VERTICAL

Item 1, 2 are the fundamental frequency at 5300 MHz.

Channel 64

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5321.20	105.33			102.42	3.48	34.34	34.91	Average	101	127	VERTICAL
2	5321.20	117.34			114.43	3.48	34.34	34.91	Peak	101	127	VERTICAL
3	5351.20	52.65	54.00	-1.35	49.68	3.49	34.39	34.91	Average	101	127	VERTICAL
4	5352.00	71.26	74.00	-2.74	68.29	3.49	34.39	34.91	Peak	101	127	VERTICAL

Item 1, 2 are the fundamental frequency at 5320 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 100, 116, 140 / Chain 1 + Chain 2
Test Date	Jun. 04, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Channel 100

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5421.00	49.04	54.00	-4.96	45.97	3.51	34.48	34.92	Average	100	54	VERTICAL
2	5453.00	63.11	74.00	-10.89	59.98	3.52	34.53	34.92	Peak	100	54	VERTICAL
3	5469.00	51.30	54.00	-2.70	48.15	3.52	34.55	34.92	Average	100	54	VERTICAL
4	5469.00	72.60	74.00	-1.40	69.45	3.52	34.55	34.92	Peak	100	54	VERTICAL
5	5498.80	115.94			112.73	3.53	34.60	34.92	Peak	100	54	VERTICAL
6	5499.00	104.90			101.69	3.53	34.60	34.92	Average	100	54	VERTICAL

Item 5, 6 are the fundamental frequency at 5500 MHz.

Channel 116

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5456.00	61.90	74.00	-12.10	58.77	3.52	34.53	34.92	Peak	100	289	VERTICAL
2	5459.00	52.38	54.00	-1.62	49.25	3.52	34.53	34.92	Average	100	289	VERTICAL
3	5461.00	52.82	54.00	-1.18	49.69	3.52	34.53	34.92	Average	100	289	VERTICAL
4	5464.00	62.33	74.00	-11.67	59.18	3.52	34.55	34.92	Peak	100	289	VERTICAL
5	5574.00	116.04			112.79	3.55	34.63	34.93	Peak	100	289	VERTICAL
6	5579.00	106.23			102.97	3.56	34.63	34.93	Average	100	289	VERTICAL

Item 5, 6 are the fundamental frequency at 5580 MHz.

Channel 140

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5698.20	112.98			109.65	3.59	34.68	34.94	Peak	100	57	VERTICAL
2	5700.80	102.12			98.79	3.59	34.68	34.94	Average	100	57	VERTICAL
3	5725.80	50.23	54.00	-3.77	46.88	3.60	34.69	34.94	Average	100	57	VERTICAL
4	5726.00	72.61	74.00	-1.39	69.26	3.60	34.69	34.94	Peak	100	57	VERTICAL

Item 1, 2 are the fundamental frequency at 5700 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 144 / Chain 1 + Chain 2
Test Date	Jun. 10, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Channel 144

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5722.00	110.83			107.48	3.60	34.69	34.94	Average	100	303	VERTICAL
2	5722.00	121.44			118.09	3.60	34.69	34.94	Peak	100	303	VERTICAL
3	5850.00	66.76	68.20	-1.44	63.33	3.64	34.74	34.95	Average	100	303	VERTICAL

Item 1, 2 are the fundamental frequency at 5720 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 54, 62 / Chain 1 + Chain 2
Test Date	Jun. 05, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Channel 54

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5257.60	115.19			112.39	3.46	34.25	34.91	Peak	100	245	VERTICAL
2	5274.80	103.13			100.30	3.47	34.27	34.91	Average	100	245	VERTICAL
3	5350.40	68.56	74.00	-5.44	65.59	3.49	34.39	34.91	Peak	100	245	VERTICAL
4	5352.40	52.84	54.00	-1.16	49.87	3.49	34.39	34.91	Average	100	245	VERTICAL

Item 1, 2 are the fundamental frequency at 5270 MHz.

Channel 62

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5297.20	98.05			95.16	3.48	34.32	34.91	Average	100	239	VERTICAL
2	5297.60	110.01			107.12	3.48	34.32	34.91	Peak	100	239	VERTICAL
3	5350.00	52.69	54.00	-1.31	49.72	3.49	34.39	34.91	Average	100	239	VERTICAL
4	5352.00	70.75	74.00	-3.25	67.78	3.49	34.39	34.91	Peak	100	239	VERTICAL

Item 1, 2 are the fundamental frequency at 5310 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 102, 110, 134 / Chain 1 + Chain 2
Test Date	Jun. 05, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Channel 102

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5459.60	47.57	54.00	-6.43	44.44	3.52	34.53	34.92	Average	100	307	VERTICAL
2	5459.60	65.40	74.00	-8.60	62.27	3.52	34.53	34.92	Peak	100	307	VERTICAL
3	5469.60	70.05	74.00	-3.95	66.90	3.52	34.55	34.92	Peak	100	307	VERTICAL
4	5470.00	52.99	54.00	-1.01	49.84	3.52	34.55	34.92	Average	100	307	VERTICAL
5	5504.80	99.12			95.90	3.54	34.60	34.92	Average	100	307	VERTICAL
6	5514.80	111.11			107.88	3.54	34.61	34.92	Peak	100	307	VERTICAL

Item 5, 6 are the fundamental frequency at 5510 MHz.

Channel 110

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5460.00	47.37	54.00	-6.63	44.24	3.52	34.53	34.92	Average	100	306	VERTICAL
2	5460.00	63.84	74.00	-10.16	60.71	3.52	34.53	34.92	Peak	100	306	VERTICAL
3	5470.00	52.46	54.00	-1.54	49.31	3.52	34.55	34.92	Average	100	306	VERTICAL
4	5470.00	72.12	74.00	-1.88	68.97	3.52	34.55	34.92	Peak	100	306	VERTICAL
5	5514.80	111.04			107.81	3.54	34.61	34.92	Peak	100	306	VERTICAL
6	5515.20	98.82			95.59	3.54	34.61	34.92	Average	100	306	VERTICAL

Item 5, 6 are the fundamental frequency at 5550 MHz.

Channel 134

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5663.60	112.68			109.36	3.59	34.66	34.93	Peak	100	58	VERTICAL
2	5666.00	101.51			98.19	3.59	34.66	34.93	Average	100	58	VERTICAL
3	5725.80	52.35	54.00	-1.65	49.00	3.60	34.69	34.94	Average	100	58	VERTICAL
4	5726.20	71.39	74.00	-2.61	68.04	3.60	34.69	34.94	Peak	100	58	VERTICAL

Item 1, 2 are the fundamental frequency at 5670 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 142 / Chain 1 + Chain 2
Test Date	Jun. 10, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Channel 142

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5696.00	117.82			114.49	3.59	34.68	34.94	Peak	100	310	VERTICAL
2	5697.00	105.91			102.58	3.59	34.68	34.94	Average	100	310	VERTICAL
3	5856.00	66.89	68.20	-1.31	63.46	3.64	34.74	34.95	Peak	100	310	VERTICAL

Item 1, 2 are the fundamental frequency at 5710 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 58, 106 / Chain 1 + Chain 2
Test Date	Jun. 05, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Channel 58

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5297.00	106.26			103.37	3.48	34.32	34.91	Peak	100	238	VERTICAL
2	5299.00	93.59			90.70	3.48	34.32	34.91	Average	100	238	VERTICAL
3	5350.00	52.65	54.00	-1.35	49.68	3.49	34.39	34.91	Average	100	238	VERTICAL
4	5357.00	67.62	74.00	-6.38	64.65	3.49	34.39	34.91	Peak	100	238	VERTICAL

Item 1, 2 are the fundamental frequency at 5290 MHz.

Channel 106

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5453.50	49.12	54.00	-4.88	45.99	3.52	34.53	34.92	Average	100	56	VERTICAL
2	5454.00	65.52	74.00	-8.48	62.39	3.52	34.53	34.92	Peak	100	56	VERTICAL
3	5468.00	52.49	54.00	-1.51	49.34	3.52	34.55	34.92	Average	100	56	VERTICAL
4	5469.00	68.22	74.00	-5.78	65.07	3.52	34.55	34.92	Peak	100	56	VERTICAL
5	5536.00	106.40			103.16	3.55	34.61	34.92	Peak	100	56	VERTICAL
6	5539.00	94.45			91.21	3.55	34.61	34.92	Average	100	56	VERTICAL

Item 5, 6 are the fundamental frequency at 5530 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 122, 138 / Chain 1 + Chain 2
Test Date	Jun. 05, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Channel 122

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5436.00	61.38	74.00	-12.62	58.27	3.52	34.51	34.92	Peak	100	58	VERTICAL
2	5453.00	47.60	54.00	-6.40	44.47	3.52	34.53	34.92	Average	100	58	VERTICAL
3	5463.00	63.88	74.00	-10.12	60.73	3.52	34.55	34.92	Peak	100	58	VERTICAL
4	5466.00	49.82	54.00	-4.18	46.67	3.52	34.55	34.92	Average	100	58	VERTICAL
5	5599.00	97.64			94.37	3.56	34.64	34.93	Average	100	58	VERTICAL
6	5599.00	110.14			106.87	3.56	34.64	34.93	Peak	100	58	VERTICAL
7	5726.00	52.45	54.00	-1.55	49.10	3.60	34.69	34.94	Average	100	58	VERTICAL
8	5732.00	66.53	74.00	-7.47	63.17	3.61	34.69	34.94	Peak	100	58	VERTICAL

Item 5, 6 are the fundamental frequency at 5610 MHz.

Channel 138

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5661.00	99.45			96.13	3.59	34.66	34.93	Average	100	57	VERTICAL
2	5664.00	112.88			109.56	3.59	34.66	34.93	Peak	100	57	VERTICAL
3	5851.00	52.45	54.00	-1.55	49.02	3.64	34.74	34.95	Average	100	57	VERTICAL
4	5858.00	67.50	74.00	-6.50	64.06	3.65	34.74	34.95	Peak	100	57	VERTICAL

Item 1, 2 are the fundamental frequency at 5690 MHz.

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m)

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 52, 60, 64 / Chain 2
Test Date	Jun. 09, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Channel 52

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5137.50	60.69	74.00	-13.31	58.08	3.43	34.09	34.91	Peak	112	24	VERTICAL
2	5140.39	48.17	54.00	-5.83	45.54	3.43	34.11	34.91	Average	112	24	VERTICAL
3	5262.40	108.77			105.95	3.46	34.27	34.91	Average	112	24	VERTICAL
4	5267.21	120.46			117.64	3.46	34.27	34.91	Peak	112	24	VERTICAL
5	5373.56	64.85	74.00	-9.15	61.86	3.50	34.41	34.92	Peak	112	24	VERTICAL
6	5381.73	52.60	54.00	-1.40	49.58	3.50	34.44	34.92	Average	112	24	VERTICAL

Item 3, 4 are the fundamental frequency at 5260 MHz.

Channel 60

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5298.08	117.15			114.26	3.48	34.32	34.91	Peak	103	354	VERTICAL
2	5301.28	105.69			102.80	3.48	34.32	34.91	Average	103	354	VERTICAL
3	5350.00	52.73	54.00	-1.27	49.76	3.49	34.39	34.91	Average	103	354	VERTICAL
4	5350.32	70.14	74.00	-3.86	67.17	3.49	34.39	34.91	Peak	103	354	VERTICAL

Item 1, 2 are the fundamental frequency at 5300 MHz.

Channel 64

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5321.28	103.62			100.71	3.48	34.34	34.91	Average	112	25	VERTICAL
2	5322.89	114.85			111.93	3.49	34.34	34.91	Peak	112	25	VERTICAL
3	5350.00	52.75	54.00	-1.25	49.78	3.49	34.39	34.91	Average	112	25	VERTICAL
4	5351.92	70.22	74.00	-3.78	67.25	3.49	34.39	34.91	Peak	112	25	VERTICAL

Item 1, 2 are the fundamental frequency at 5320 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 100, 116, 140 / Chain 2
Test Date	Jun. 09, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Channel 100

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5455.83	64.47	74.00	-9.53	61.34	3.52	34.53	34.92	Peak	109	25	VERTICAL
2	5460.00	46.46	54.00	-7.54	43.33	3.52	34.53	34.92	Average	109	25	VERTICAL
3	5467.12	72.79	74.00	-1.21	69.64	3.52	34.55	34.92	Peak	109	25	VERTICAL
4	5470.00	51.01	54.00	-2.99	47.86	3.52	34.55	34.92	Average	109	25	VERTICAL
5	5498.72	103.11			99.90	3.53	34.60	34.92	Average	109	25	VERTICAL
6	5501.92	114.50			111.28	3.54	34.60	34.92	Peak	109	25	VERTICAL

Item 5, 6 are the fundamental frequency at 5500 MHz.

Channel 116

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5331.80	46.68	54.00	-7.32	43.73	3.49	34.37	34.91	Average	105	16	VERTICAL
2	5333.40	59.09	74.00	-14.91	56.14	3.49	34.37	34.91	Peak	105	16	VERTICAL
3	5468.40	45.74	54.00	-8.26	42.59	3.52	34.55	34.92	Average	105	16	VERTICAL
4	5470.00	60.06	74.00	-13.94	56.91	3.52	34.55	34.92	Peak	105	16	VERTICAL
5	5581.60	108.00			104.74	3.56	34.63	34.93	Average	105	16	VERTICAL
6	5584.81	119.45			116.19	3.56	34.63	34.93	Peak	105	16	VERTICAL

Item 5, 6 are the fundamental frequency at 5580 MHz.

Channel 140

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5700.80	111.20			107.87	3.59	34.68	34.94	Peak	113	18	VERTICAL
2	5701.60	101.18			97.85	3.59	34.68	34.94	Average	113	18	VERTICAL
3	5725.00	50.93	54.00	-3.07	47.58	3.60	34.69	34.94	Average	113	18	VERTICAL
4	5730.61	72.96	74.00	-1.04	69.60	3.61	34.69	34.94	Peak	113	18	VERTICAL

Item 1, 2 are the fundamental frequency at 5700 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 144 / Chain 2
Test Date	Jun. 09, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Channel 144

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5720.80	108.69			105.34	3.60	34.69	34.94	Average	112	352	VERTICAL
2	5720.80	119.91			116.56	3.60	34.69	34.94	Peak	112	352	VERTICAL
3	5850.00	51.90	54.00	-2.10	48.47	3.64	34.74	34.95	Average	112	352	VERTICAL
4	5856.41	67.38	74.00	-6.62	63.95	3.64	34.74	34.95	Peak	112	352	VERTICAL

Item 1, 2 are the fundamental frequency at 5720 MHz.