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FCC RADIO TEST REPORT

Applicant's company	**Motorola Solutions, Inc.**
Applicant Address	One Motorola Plaza Holtsville, NY 11742 USA
FCC ID	**UZ7AP7522I**
Manufacturer's company	**Wistron NeWeb Corporation**
Manufacturer Address	20 Park Avenue II, Hsinchu Science Park, Hsinchu 308, Taiwan, R.O.C.

Product Name	Oak Internal
Brand Name	MOTOROLA
Model No.	AP-7522I
Test Rule Part(s)	47 CFR FCC Part 15 Subpart E § 15.407
Test Freq. Range	5150 ~ 5250 MHz / 5725 ~ 5850 MHz
Received Date	Apr. 15, 2014
Final Test Date	Jun. 03, 2014
Submission Type	Original Equipment

Statement

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

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

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

The measurements and test results shown in this test report were made in accordance with the procedures and found in compliance with the limit given in **ANSI C63.10-2009**, **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.

TAF
Testing Laboratory
1190

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History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR441804-03AB	Rev. 01	Initial issue of report	Jul. 03, 2014

Certificate No.: CB10306137

1. CERTIFICATE OF COMPLIANCE

Product Name	:	Oak Internal
Brand Name	:	MOTOROLA
Model No.	:	AP-7522I
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	6.90 dB
4.2	15.407(a)	26dB Spectrum Bandwidth and 99% Occupied Bandwidth	Complies	-
4.3	15.407(e)	6dB Spectrum Bandwidth and 99% Occupied Bandwidth	Complies	-
4.4	15.407(a)	Maximum Conducted Output Power	Complies	5.18 dB
4.5	15.407(a)	Power Spectral Density	Complies	4.68 dB
4.6	15.407(b)	Radiated Emissions	Complies	2.23 dB
4.7	15.407(b)	Band Edge Emissions	Complies	1.02 dB
4.8	15.407(g)	Frequency Stability	Complies	-
4.9	15.203	Antenna Requirements	Complies	-

Note: The PoE is for measurement only, would not be marketed.

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	5150 ~ 5250 MHz / 5725 ~ 5850 MHz
Channel Number	9 for 20MHz bandwidth ; 4 for 40MHz bandwidth 2 for 80MHz bandwidth
Channel Band Width (99%)	For Non-Beamforming Mode: For 1TX Band 1: 802.11ac MCS0/Nss1 (VHT20): 18.56 MHz ; 802.11ac MCS0/Nss1 (VHT40): 36.48 MHz ; 802.11ac MCS0/Nss1 (VHT80): 76.16 MHz Band 4: 802.11ac MCS0/Nss1 (VHT20): 17.84 MHz ; 802.11ac MCS0/Nss1 (VHT40): 36.32 MHz ; 802.11ac MCS0/Nss1 (VHT80): 75.84 MHz For STBC Mode: For 2TX Band 1: 802.11ac MCS0/Nss1 (VHT20): 18.08 MHz ; 802.11ac MCS0/Nss1 (VHT40): 36.48 MHz ; 802.11ac MCS0/Nss1 (VHT80): 76.16 MHz Band 4: 802.11ac MCS0/Nss1 (VHT20): 17.68 MHz ; 802.11ac MCS0/Nss1 (VHT40): 36.16 MHz ; 802.11ac MCS0/Nss1 (VHT80): 75.52 MHz

Maximum Conducted Output Power	For Non-Beamforming Mode: For 1TX Band 1: 80211n MCS0 (HT20): 21.74 dBm ; 80211n MCS0 (HT40): 21.2 dBm ; 802.11ac MCS0/Nss1 (VHT20): 21.74 dBm ; 802.11ac MCS0/Nss1 (VHT40): 21.26 dBm ; 802.11ac MCS0/Nss1 (VHT80): 17.65 dBm Band 4: 80211n MCS0 (HT20): 21.54 dBm ; 80211n MCS0 (HT40): 17.66 dBm ; 802.11ac MCS0/Nss1 (VHT20): 21.63 dBm ; 802.11ac MCS0/Nss1 (VHT40): 17.43 dBm ; 802.11ac MCS0/Nss1 (VHT80): 14.26 dBm For 2TX Band 1: 80211n MCS0 (HT20): 22.82 dBm ; 80211n MCS0 (HT40): 22.91 dBm ; 802.11ac MCS0/Nss1 (VHT20): 23.09 dBm ; 802.11ac MCS0/Nss1 (VHT40): 23.44 dBm ; 802.11ac MCS0/Nss1 (VHT80): 17.68 dBm Band 4: 80211n MCS0 (HT20): 21.26 dBm ; 80211n MCS0 (HT40): 19.26 dBm ; 802.11ac MCS0/Nss1 (VHT20): 21.26 dBm ; 802.11ac MCS0/Nss1 (VHT40): 19.54 dBm ; 802.11ac MCS0/Nss1 (VHT80): 14.19 dBm For Beamforming Mode: For 2TX Band 1: 802.11ac MCS0/Nss1 (VHT20): 20.37 dBm ; 802.11ac MCS0/Nss1 (VHT40): 20.54 dBm ; 802.11ac MCS0/Nss1 (VHT80): 15.20 dBm Band 4: 802.11ac MCS0/Nss1 (VHT20): 16.24 dBm ; 802.11ac MCS0/Nss1 (VHT40): 14.26 dBm ; 802.11ac MCS0/Nss1 (VHT80): 10.68 dBm

	For STBC Mode: For 2TX Band 1: 80211n MCS0 (HT20): 24.53 dBm ; 80211n MCS0 (HT40): 24.00 dBm ; 802.11ac MCS0/Nss1 (VHT20): 24.82 dBm ; 802.11ac MCS0/Nss1 (VHT40): 23.98 dBm ; 802.11ac MCS0/Nss1 (VHT80): 18.25 dBm Band 4: 80211n MCS0 (HT20): 22.97 dBm ; 80211n MCS0 (HT40): 19.06 dBm ; 802.11ac MCS0/Nss1 (VHT20): 21.25 dBm ; 802.11ac MCS0/Nss1 (VHT40): 19.07 dBm ; 802.11ac MCS0/Nss1 (VHT80): 15.26 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	5150 ~ 5250 MHz / 5725 ~ 5850 MHz
Channel Number	9
Maximum Conducted Output Power	For Non-Beamforming Mode: For 1TX: Band 1: 21.86 dBm ; Band 4: 20.63 dBm For 2TX: Band 1: 22.39 dBm ; Band 4: 20.82 dBm For Beamforming Mode: For 2TX: Band 1: 20.25 dBm ; Band 4: 16.18 dBm
Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3

Items	Description	
Communication Mode	☒ IP Based (Load Based)	☐ Frame Based
Beamforming Function	☒ With beamforming	☐ Without beamforming

Note: The product has beamforming function for 802.11g/n/ac in 2400~2483.5MHz and 802.11a/n/ac in 5150~5250MHz/5725~5850MHz.

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). The 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	BIRCH INT ANT	PIFA Antenna	U.FL	4.13	5.92	-	-	4.13	5.92
2	MOTOROLA	BIRCH INT ANT	PIFA Antenna	U.FL	4.13	5.92	-	-	4.13	5.92
3	MOTOROLA	BIRCH INT ANT	PIFA Antenna	U.FL	4.13	5.92	-	-	4.13	5.92
4	MOTOROLA	BIRCH INT ANT	PIFA Antenna	U.FL	4.13	5.92	-	-	4.13	5.92

Note: The EUT has four antennas of the same type.

<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

Both Chain 3 and Chain 4 support transmit and receive functions, but only one of them will be used at one time.

After evaluating, Chain 3 has been evaluated to be the worst case, so it's selected to record in this test report.

For 2TX

Chain 3 and Chain 4 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.

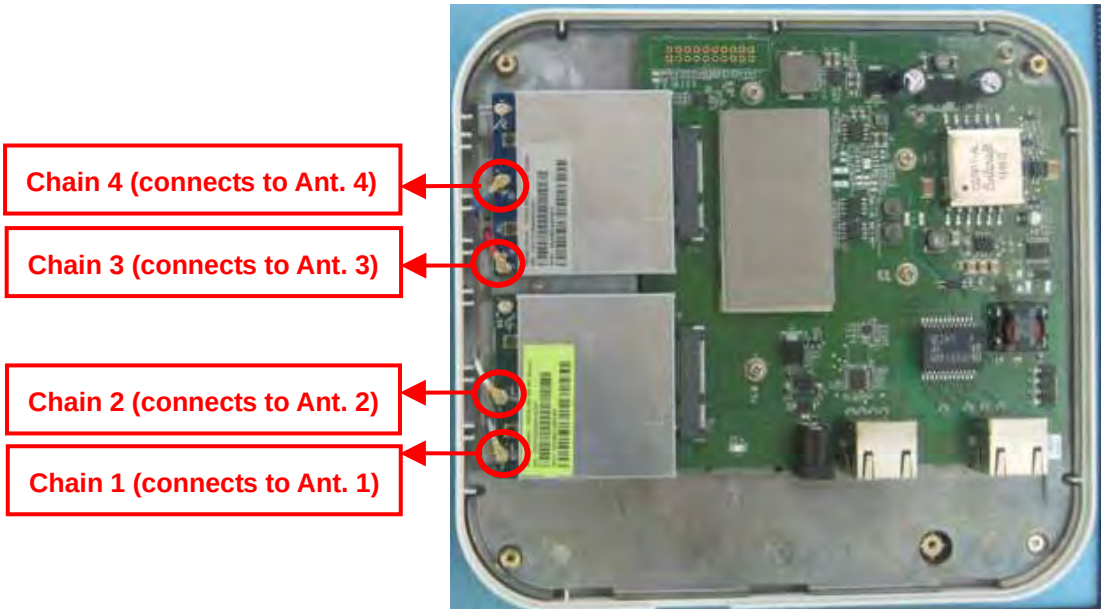
For 1TX

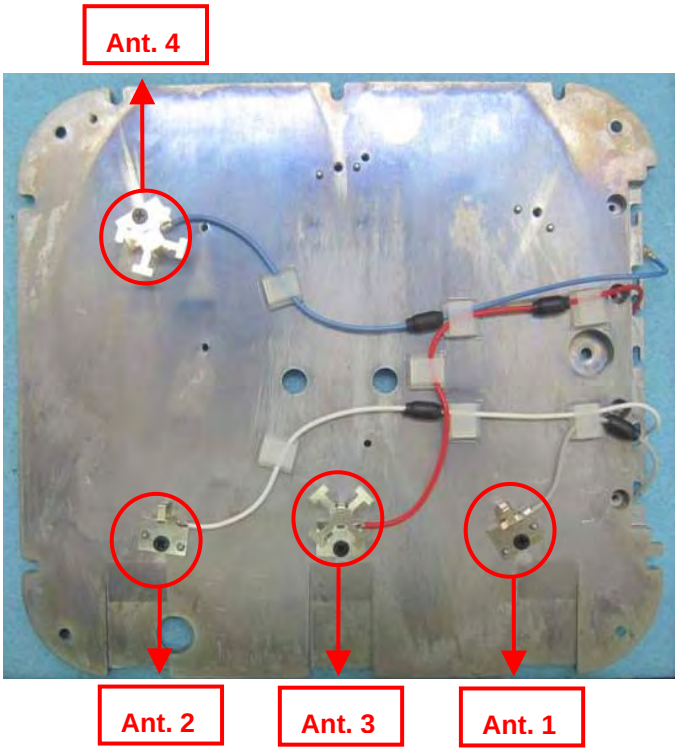
Both Chain 1 and Chain 2 support transmit and receive functions, but only one of them will be used at one time.

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 4 (connects to Ant. 4)
Chain 3 (connects to Ant. 3)
Chain 2 (connects to Ant. 2)
Chain 1 (connects to Ant. 1)


Ant. 4
Ant. 2
Ant. 3
Ant. 1

3.4. Table for Carrier Frequencies

There are three bandwidth systems.

For 20MHz bandwidth systems, use Channel 36, 40, 44, 48, 149, 153, 157, 161, 165.

For 40MHz bandwidth systems, use Channel 38, 46, 151, 159.

For 80MHz bandwidth systems, use Channel 42, 155.

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
5150~5250 MHz Band 1	36	5180 MHz	44	5220 MHz
	38	5190 MHz	46	5230 MHz
	40	5200 MHz	48	5240 MHz
	42	5210 MHz	-	-
5725~5850 MHz Band 4	149	5745 MHz	157	5785 MHz
	151	5755 MHz	159	5795 MHz
	153	5765 MHz	161	5805 MHz
	155	5775 MHz	165	5825 MHz

3.5. Table for Test Modes

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

Test Items	Mode		Data Rate	Channel	Chain
AC Power Conducted Emission	Normal Link		-	-	-
Max. Conducted Output Power	Non-beamforming Mode				
	11n HT20	Band 1&4	MCS0	36/40/48/149/157 /165	2 1+2
	11n HT40	Band 1&4	MCS0	38/46/151/159	2 1+2
	11ac VHT20	Band 1&4	MCS0/Nss1	36/40/48/149/157 /165	2 1+2
	11ac VHT40	Band 1&4	MCS0/Nss1	38/46/151/159	2 1+2
	11ac VHT80	Band 1&4	MCS0/Nss1	42/155	2 1+2
	11a/BPSK	Band 1&4	6Mbps	36/40/48/149/157 /165	2 1+2

	beamforming Mode				
	11ac VHT20	Band 1&4	MCS0/Nss1	36/40/48/149/157 /165	1+2
	11ac VHT40	Band 1&4	MCS0/Nss1	38/46/151/159	1+2
	11ac VHT80	Band 1&4	MCS0/Nss1	42/155	1+2
	11a/BPSK	Band 1&4	6Mbps	36/40/48/149/157 /165	1+2
	STBC Mode				
	11n HT20	Band 1&4	MCS0	36/40/48/149/157 /165	1+2
	11n HT40	Band 1&4	MCS0	38/46/151/159	1+2
	11ac VHT20	Band 1&4	MCS0/Nss1	36/40/48/149/157 /165	1+2
	11ac VHT40	Band 1&4	MCS0/Nss1	38/46/151/159	1+2
	11ac VHT80	Band 1&4	MCS0/Nss1	42/155	1+2
Power Spectral Density	Non-beamforming Mode				
	11ac VHT20	Band 1&4	MCS0/Nss1	36/40/48/149/157 /165	2 1+2
	11ac VHT40	Band 1&4	MCS0/Nss1	38/46/151/159	2 1+2
	11ac VHT80	Band 1&4	MCS0/Nss1	42/155	2 1+2
	beamforming Mode				
	11ac VHT20	Band 1&4	MCS0/Nss1	36/40/48/149/157 /165	1+2
	11ac VHT40	Band 1&4	MCS0/Nss1	38/46/151/159	1+2
	11ac VHT80	Band 1&4	MCS0/Nss1	42/155	1+2
	STBC Mode				
	11ac VHT20	Band 1&4	MCS0/Nss1	36/40/48/149/157 /165	1+2
	11ac VHT40	Band 1&4	MCS0/Nss1	38/46/151/159	1+2
	11ac VHT80	Band 1&4	MCS0/Nss1	42/155	1+2

26dB&6dB Spectrum Bandwidth 99% Occupied Bandwidth Measurement	Non-beamforming Mode				
	11ac VHT20	Band 1&4	MCS0/Nss1	36/40/48/149/157 /165	2
	11ac VHT40	Band 1&4	MCS0/Nss1	38/46/151/159	2
	11ac VHT80	Band 1&4	MCS0/Nss1	42/155	2
	STBC Mode				
	11ac VHT20	Band 1&4	MCS0/Nss1	36/40/48/149/157 /165	1+2
	11ac VHT40	Band 1&4	MCS0/Nss1	38/46/151/159	1+2
	11ac VHT80	Band 1&4	MCS0/Nss1	42/155	1+2
Radiated Emission Below 1GHz	Normal Link		-	-	-
Radiated Emission Above 1GHz	Non-beamforming Mode				
	11ac VHT20	Band 1&4	MCS0/Nss1	36/40/48/149/157 /165	2
	11ac VHT40	Band 1&4	MCS0/Nss1	38/46/151/159	2
	11ac VHT80	Band 1&4	MCS0/Nss1	42/155	2
	STBC Mode				
	11ac VHT20	Band 1&4	MCS0/Nss1	36/40/48/149/157 /165	1+2
	11ac VHT40	Band 1&4	MCS0/Nss1	38/46/151/159	1+2
	11ac VHT80	Band 1&4	MCS0/Nss1	42/155	1+2
Band Edge Emission	Non-beamforming Mode				
	11n HT20	Band 1&4	MCS0	36/40/48/149/157 /165	2 1+2
	11n HT40	Band 1&4	MCS0	38/46/151/159	2 1+2
	11ac VHT20	Band 1&4	MCS0/Nss1	36/40/48/149/157 /165	2 1+2
	11ac VHT40	Band 1&4	MCS0/Nss1	38/46/151/159	2 1+2
	11ac VHT80	Band 1&4	MCS0/Nss1	42/155	2 1+2
	beamforming Mode				
	11n HT20	Band 1&4	MCS0	36/40/48/149/157 /165	1+2
	11n HT40	Band 1&4	MCS0	38/46/151/159	1+2

	11ac VHT20	Band 1&4	MCS0/Nss1	36/40/48/149/157 /165	1+2
	11ac VHT40	Band 1&4	MCS0/Nss1	38/46/151/159	1+2
	11ac VHT80	Band 1&4	MCS0/Nss1	42/155	1+2
	STBC Mode				
	11n HT20	Band 1&4	MCS0	36/40/48/149/157 /165	1+2
	11n HT40	Band 1&4	MCS0	38/46/151/159	1+2
	11ac VHT20	Band 1&4	MCS0/Nss1	36/40/48/149/157 /165	1+2
	11ac VHT40	Band 1&4	MCS0/Nss1	38/46/151/159	1+2
	11ac VHT80	Band 1&4	MCS0/Nss1	42/155	1+2
Frequency Stability	Un-modulation		-	40	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 + Adapter

Test Mode 2: Normal Link - EUT + 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 + Adapter

Test Mode 2: Normal Link - EUT laying + Adapter

Mode 2 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 laying + PoE

Mode 2 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

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 Appendix B) and Radiated Emission Co-location (please refer to Appendix C) 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 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

3.8. Table for Parameters of Test Software Setting

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

<For Non-Beamforming Mode>

For 1TX

Power Parameters of IEEE 802.11n MCS0 HT20

Test Software Version	Mtool_2.0.1.0					
Frequency	5180 MHz	5200 MHz	5240 MHz	5745 MHz	5785 MHz	5825 MHz
MCS0 HT20	78	84	84	63	80	64

Power Parameters of IEEE 802.11n MCS0 HT40

Test Software Version	Mtool_2.0.1.0			
Frequency	5190 MHz	5230 MHz	5755 MHz	5795 MHz
MCS0 HT40	65	82	58	64

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20

Test Software Version	Mtool_2.0.1.0					
Frequency	5180 MHz	5200 MHz	5240 MHz	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 VHT20	77	84	84	62	80	63

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40

Test Software Version	Mtool_2.0.1.0			
Frequency	5190 MHz	5230 MHz	5755 MHz	5795 MHz
MCS0/Nss1 VHT40	65	82	58	63

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80

Test Software Version	Mtool_2.0.1.0	
Frequency	5210 MHz	5775 MHz
MCS0/Nss1 VHT80	70	53

Power Parameters of IEEE 802.11a

Test Software Version	Mtool_2.0.1.0					
Frequency	5180 MHz	5200 MHz	5240 MHz	5745 MHz	5785 MHz	5825 MHz
802.11a	75	84	84	63	76	68

For 2TX

Power Parameters of IEEE 802.11n MCS0 HT20

Test Software Version	DOS					
Frequency	5180 MHz	5200 MHz	5240 MHz	5745 MHz	5785 MHz	5825 MHz
MCS0 HT20	70	70	76	62	68	64

Power Parameters of IEEE 802.11n MCS0 HT40

Test Software Version	DOS			
Frequency	5190 MHz	5230 MHz	5755 MHz	5795 MHz
MCS0 HT40	56	76	52	59

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20

Test Software Version	DOS					
Frequency	5180 MHz	5200 MHz	5240 MHz	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 VHT20	72	70	77	62	68	62

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40

Test Software Version	DOS			
Frequency	5190 MHz	5230 MHz	5755 MHz	5795 MHz
MCS0/Nss1 VHT40	60	78	50	60

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80

Test Software Version	DOS	
Frequency	5210 MHz	5775 MHz
MCS0/Nss1 VHT80	56	40

Power Parameters of IEEE 802.11a

Test Software Version	DOS					
Frequency	5180 MHz	5200 MHz	5240 MHz	5745 MHz	5785 MHz	5825 MHz
802.11a	72	70	74	61	66	66

<For Beamforming Mode>

For 2TX

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20

Test Software Version	DOS					
Frequency	5180 MHz	5200 MHz	5240 MHz	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 VHT20	60	62	66	44	48	44

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40

Test Software Version	DOS			
Frequency	5190 MHz	5230 MHz	5755 MHz	5795 MHz
MCS0/Nss1 VHT40	52	66	36	40

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80

Test Software Version	DOS	
Frequency	5210 MHz	5775 MHz
MCS0/Nss1 VHT80	46	26

Power Parameters of IEEE 802.11a

Test Software Version	DOS					
Frequency	5180 MHz	5200 MHz	5240 MHz	5745 MHz	5785 MHz	5825 MHz
802.11a	60	63	67	46	50	46

<For STBC Mode>

For 2TX

Power Parameters of IEEE 802.11n MCS0 HT20

Test Software Version	DOS					
Frequency	5180 MHz	5200 MHz	5240 MHz	5745 MHz	5785 MHz	5825 MHz
MCS0 HT20	73	74	82	60	74	62

Power Parameters of IEEE 802.11n MCS0 HT40

Test Software Version	DOS			
Frequency	5190 MHz	5230 MHz	5755 MHz	5795 MHz
MCS0 HT40	60	80	54	58

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20

Test Software Version	DOS					
Frequency	5180 MHz	5200 MHz	5240 MHz	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 VHT20	72	74	83	60	68	62

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40

Test Software Version	DOS			
Frequency	5190 MHz	5230 MHz	5755 MHz	5795 MHz
MCS0/Nss1 VHT40	60	80	50	58

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80

Test Software Version	DOS	
Frequency	5210 MHz	5775 MHz
MCS0/Nss1 VHT80	58	44

3.9. 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.

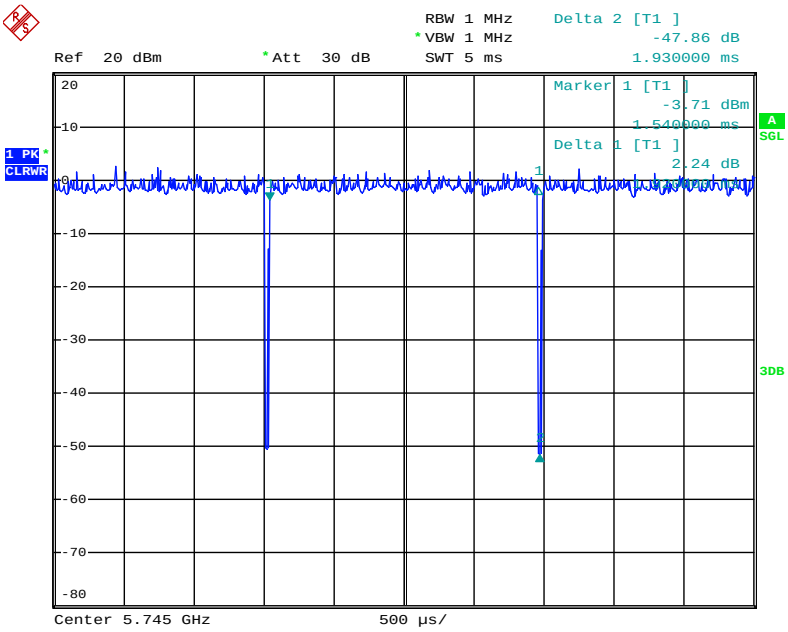
For STBC mode:

For Conducted Mode:

The EUT was programmed to be in continuously transmitting mode.

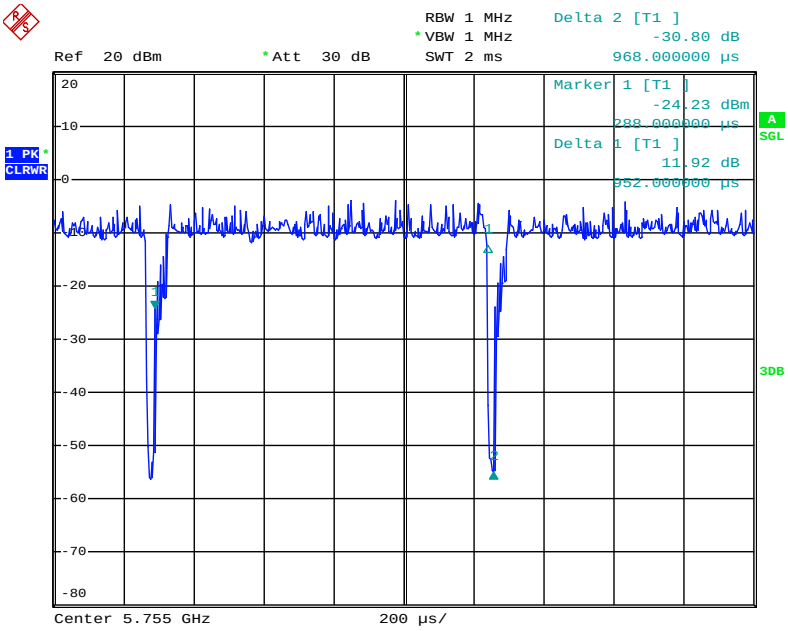
3.10. Duty Cycle

IEEE 802.11n MCS0 HT20



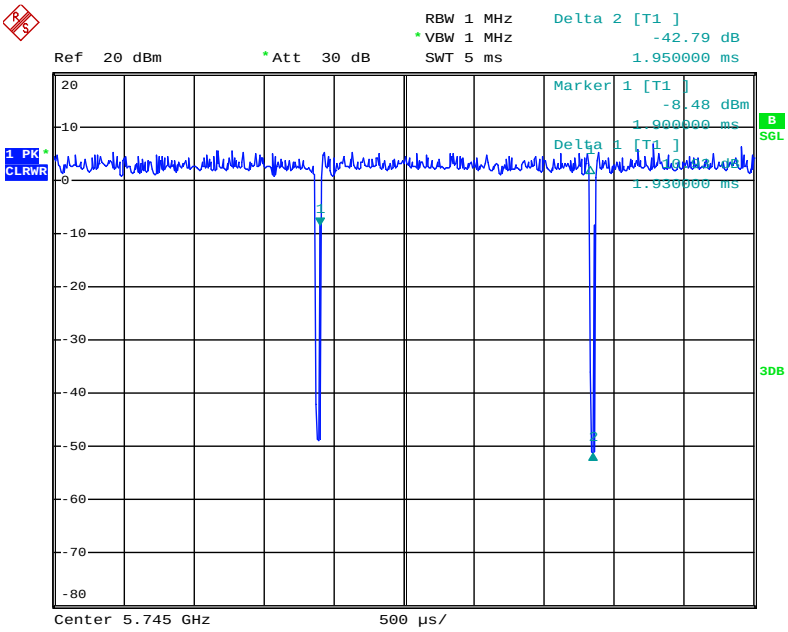
Date: 3.JUN.2014 08:37:39

IEEE 802.11n MCS0 HT40



Date: 3.JUN.2014 08:38:58

IEEE 802.11ac MCS0/Nss1 VHT20



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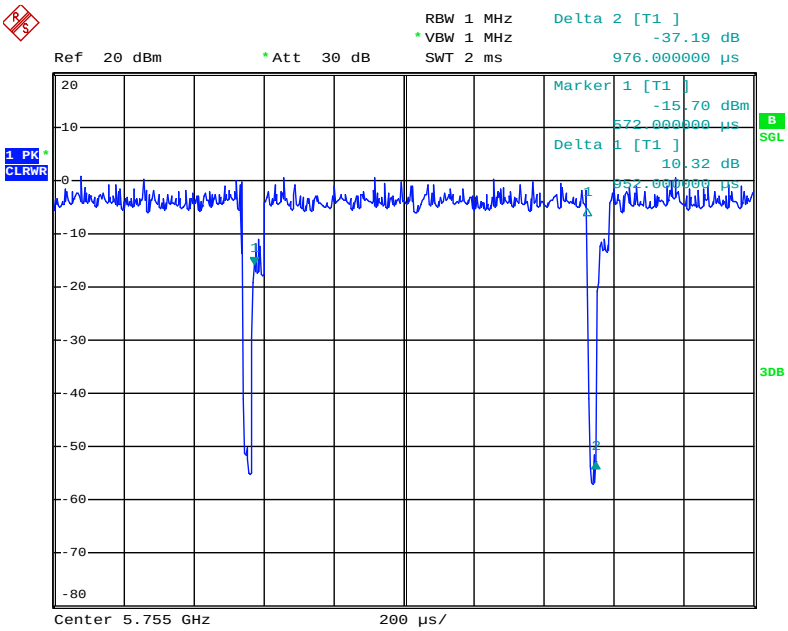
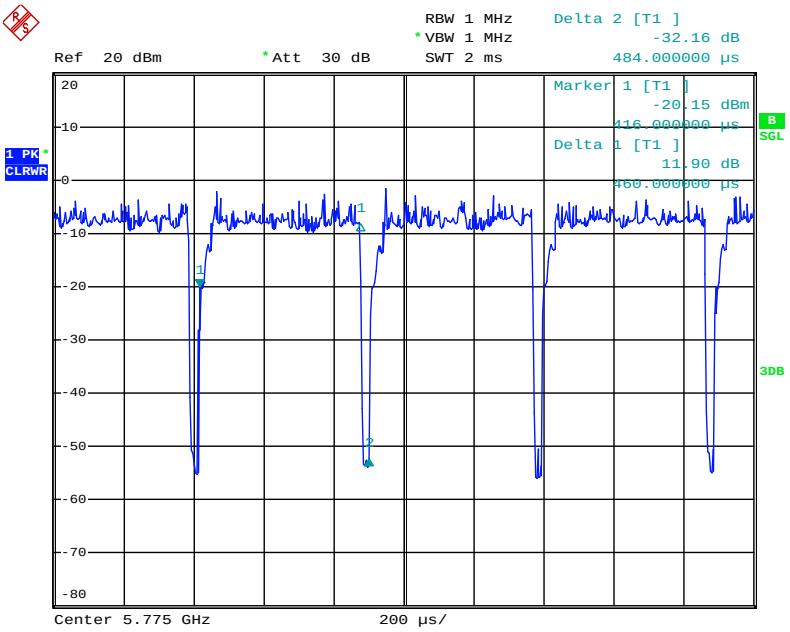
IEEE 802.11ac MCS0/Nss1 VHT40



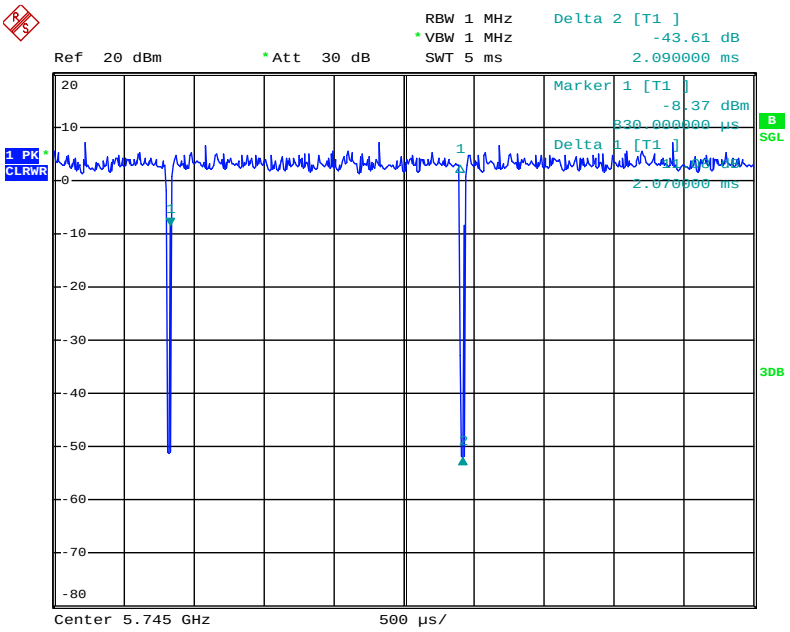
Date: 29.MAY.2014 13:24:14

IEEE 802.11ac MCS0/Nss1 VHT80



Date: 29.MAY.2014 13:25:12

IEEE 802.11a

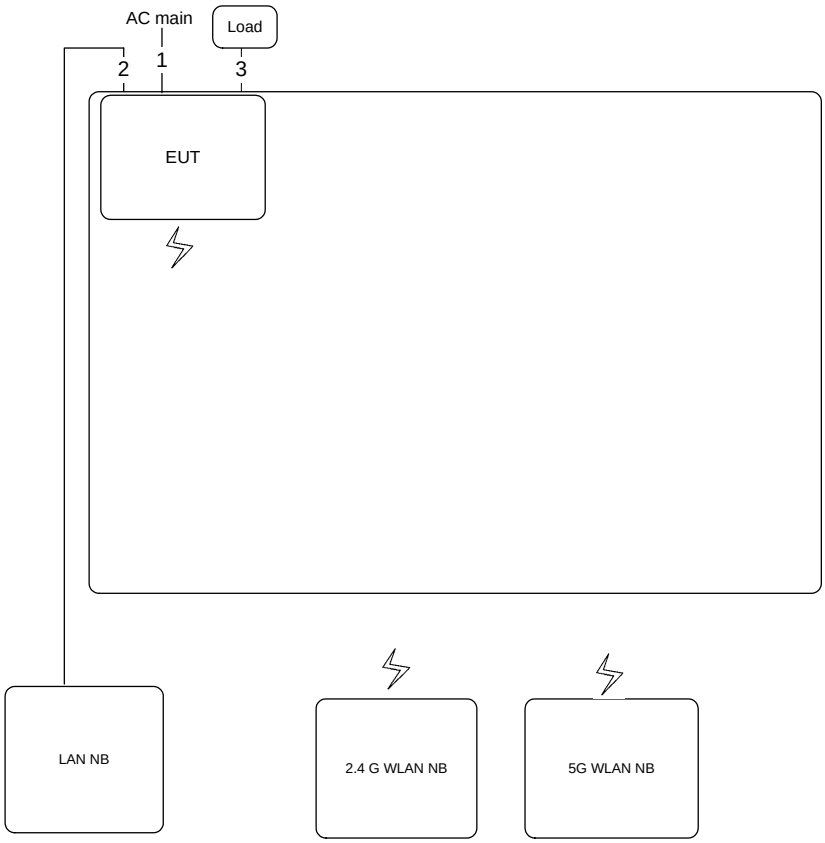


Date: 29.MAY.2014 13:23:13

3.11. Test Configurations

3.11.1. AC Power Line Conduction Emissions Test Configuration

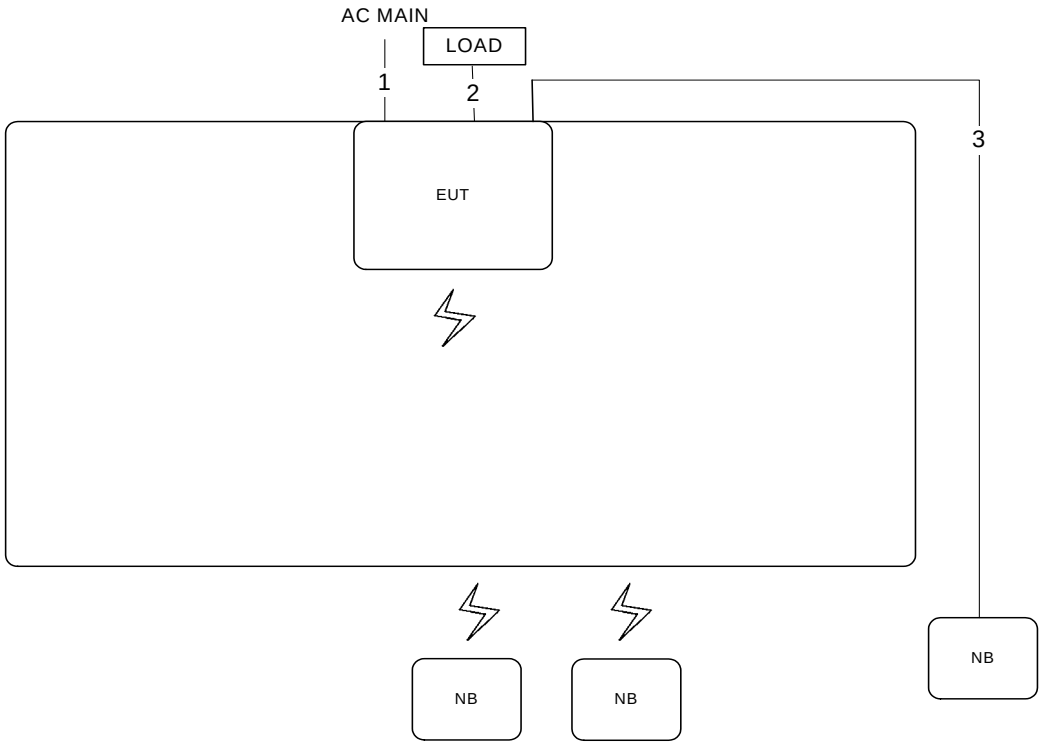
Test Mode: Mode 1



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

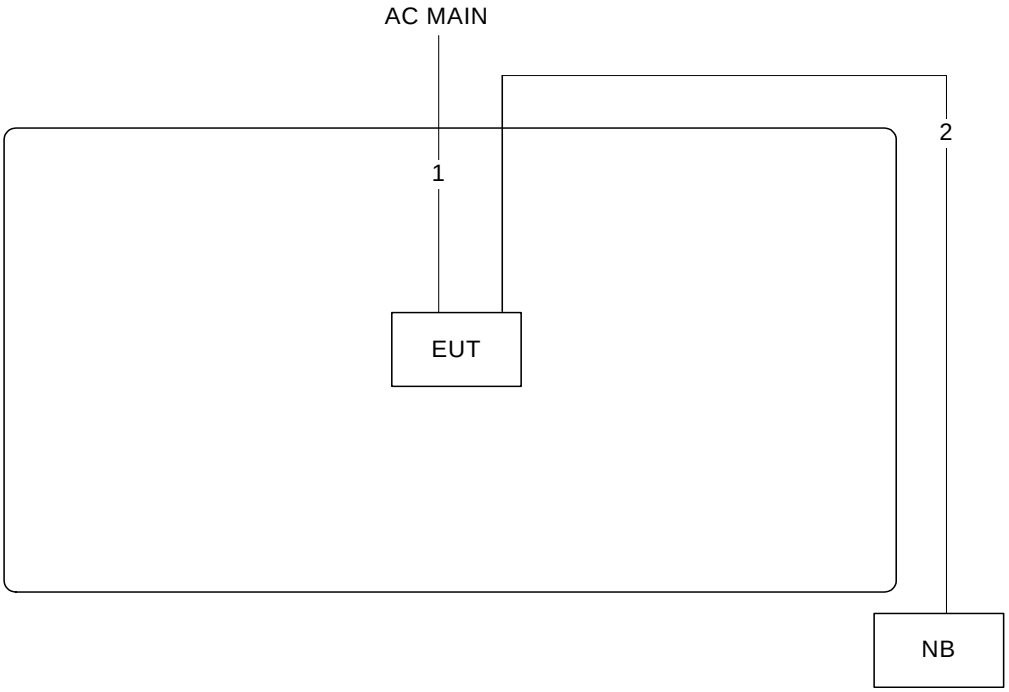
3.11.2. Radiation Emissions Test Configuration

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

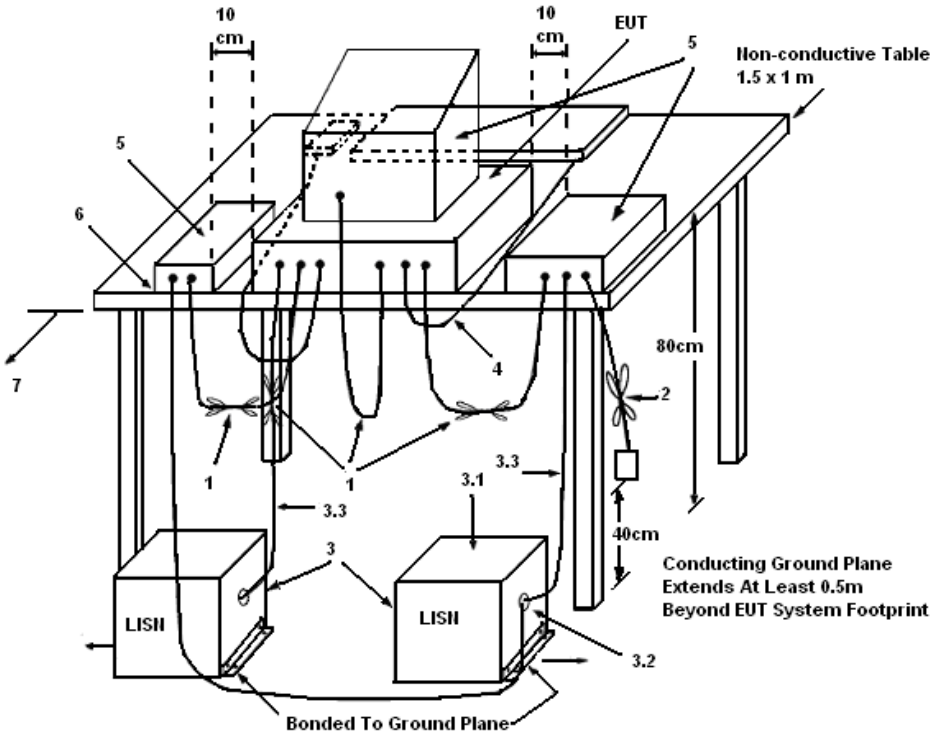
Please refer to section 5 of equipments list in this report. The following table is the setting of the receiver.

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

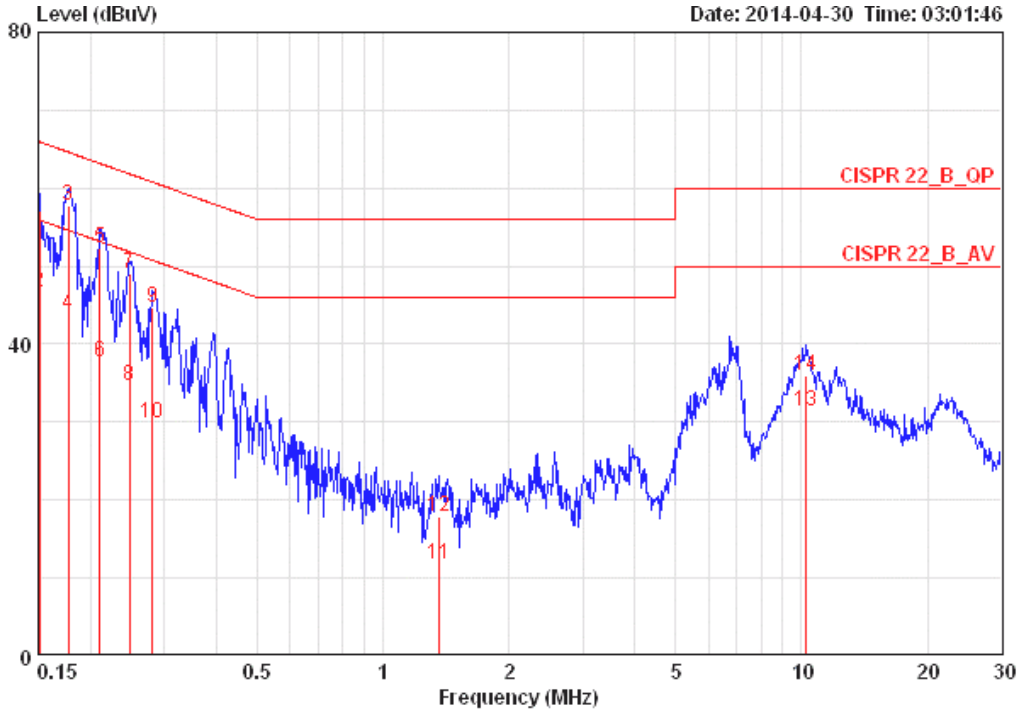
There is no deviation with the original standard.

4.1.6. EUT Operation during Test

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

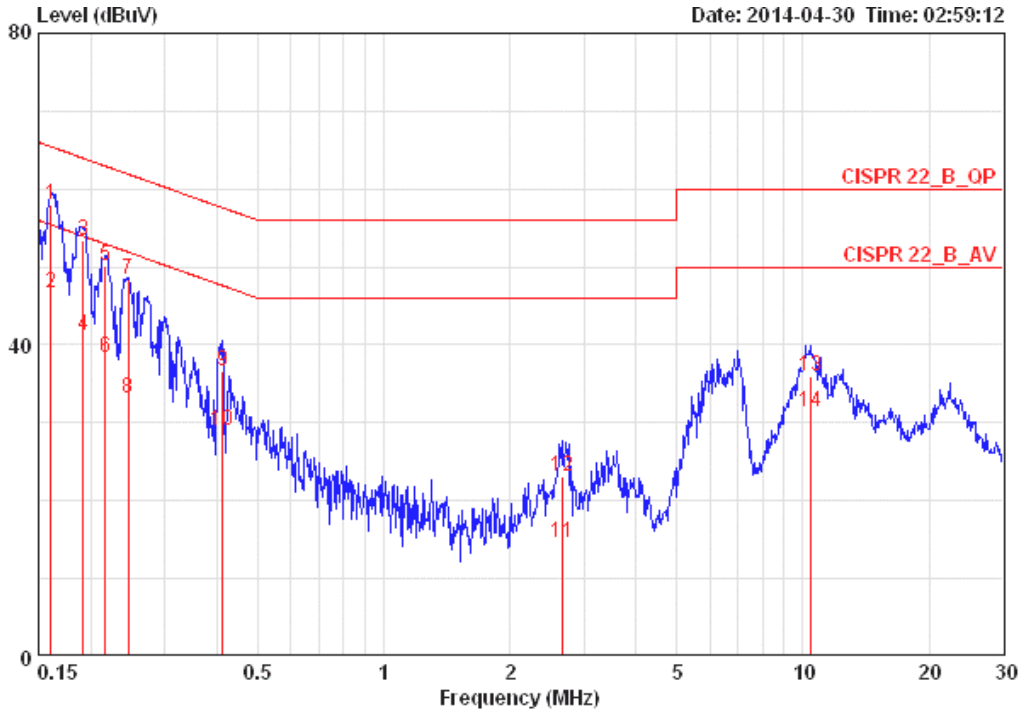
4.1.7. Results of AC Power Line Conducted Emissions Measurement

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	0.15080	57.11	-8.85	65.96	0.15	56.80	0.16	LINE	QP
2	0.15080	46.55	-9.41	55.96	0.15	46.24	0.16	LINE	AVERAGE
3	0.17678	57.73	-6.90	64.64	0.15	57.42	0.16	LINE	QP
4	0.17678	43.90	-10.73	54.64	0.15	43.59	0.16	LINE	AVERAGE
5	0.21055	52.39	-10.80	63.18	0.15	52.07	0.17	LINE	QP
6	0.21055	37.61	-15.58	53.18	0.15	37.29	0.17	LINE	AVERAGE
7	0.24814	49.00	-12.82	61.82	0.15	48.68	0.17	LINE	QP
8	0.24814	34.69	-17.13	51.82	0.15	34.37	0.17	LINE	AVERAGE
9	0.28178	44.63	-16.13	60.76	0.15	44.31	0.17	LINE	QP
10	0.28178	29.88	-20.88	50.76	0.15	29.56	0.17	LINE	AVERAGE
11	1.359	11.66	-34.34	46.00	0.17	11.27	0.22	LINE	AVERAGE
12	1.359	17.82	-38.18	56.00	0.17	17.43	0.22	LINE	QP
13	10.288	31.36	-18.64	50.00	0.38	30.60	0.39	LINE	AVERAGE
14	10.288	35.95	-24.05	60.00	0.38	35.19	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	0.16070	57.92	-7.51	65.43	0.07	57.69	0.16	NEUTRAL	QP
2	0.16070	46.56	-8.87	55.43	0.07	46.33	0.16	NEUTRAL	AVERAGE
3	0.19140	53.34	-10.63	63.98	0.07	53.11	0.16	NEUTRAL	QP
4	0.19140	41.09	-12.88	53.98	0.07	40.86	0.16	NEUTRAL	AVERAGE
5	0.21620	50.08	-12.89	62.96	0.07	49.84	0.17	NEUTRAL	QP
6	0.21620	38.34	-14.63	52.96	0.07	38.10	0.17	NEUTRAL	AVERAGE
7	0.24552	48.38	-13.53	61.91	0.07	48.14	0.17	NEUTRAL	QP
8	0.24552	33.19	-18.72	51.91	0.07	32.95	0.17	NEUTRAL	AVERAGE
9	0.41266	36.64	-20.95	57.59	0.07	36.39	0.18	NEUTRAL	QP
10	0.41266	28.97	-18.62	47.59	0.07	28.72	0.18	NEUTRAL	AVERAGE
11	2.664	14.66	-31.34	46.00	0.12	14.27	0.27	NEUTRAL	AVERAGE
12	2.664	23.08	-32.92	56.00	0.12	22.69	0.27	NEUTRAL	QP
13	10.397	35.91	-24.09	60.00	0.28	35.25	0.39	NEUTRAL	QP
14	10.397	31.40	-18.60	50.00	0.28	30.74	0.39	NEUTRAL	AVERAGE

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 4.6.4.

4.2.5. Test Deviation

There is no deviation with the original standard.

4.2.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

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

<For Non-Beamforming Mode>

Temperature	20℃	Humidity	53%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac

For 1TX

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	21.28	18.24
40	5200 MHz	34.56	18.40
48	5240 MHz	35.20	18.56

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
38	5190 MHz	39.36	36.48
46	5230 MHz	55.04	36.48

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
42	5210 MHz	81.92	76.16

<For STBC Mode>

Temperature	20°C	Humidity	53%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac

For 2TX

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

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	5180 MHz	20.64	17.92
40	5200 MHz	20.64	17.92
48	5240 MHz	26.56	18.08

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

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
38	5190 MHz	38.72	36.48
46	5230 MHz	40.32	36.48

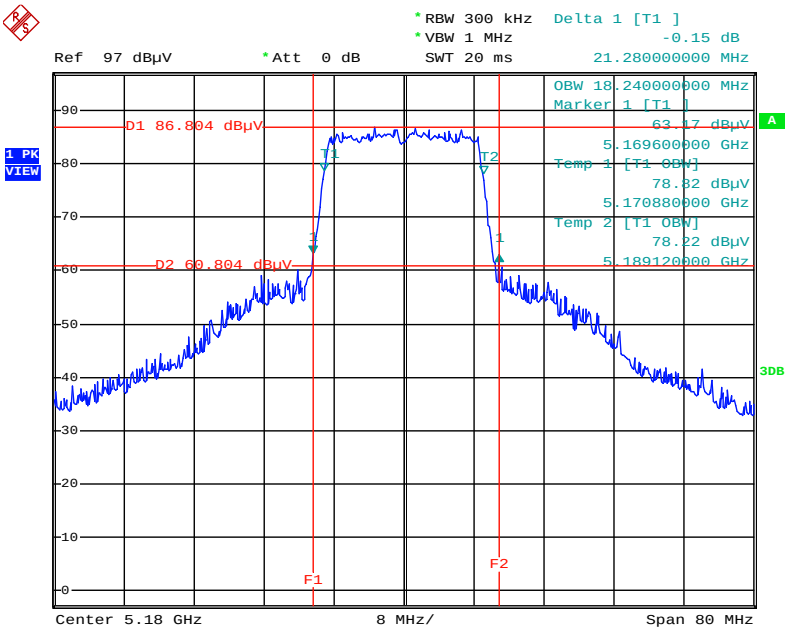
Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
42	5210 MHz	81.92	76.16

<For Non-Beamforming Mode>

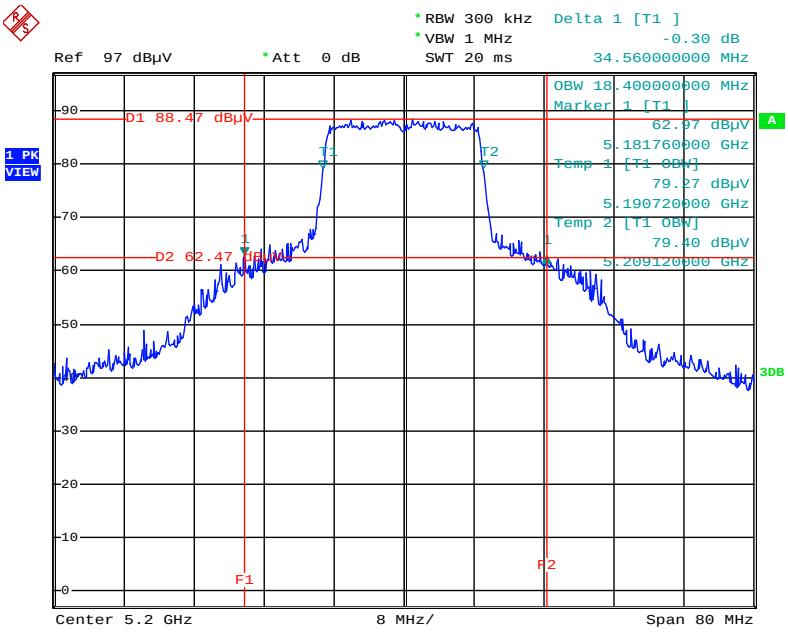
For 1TX

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



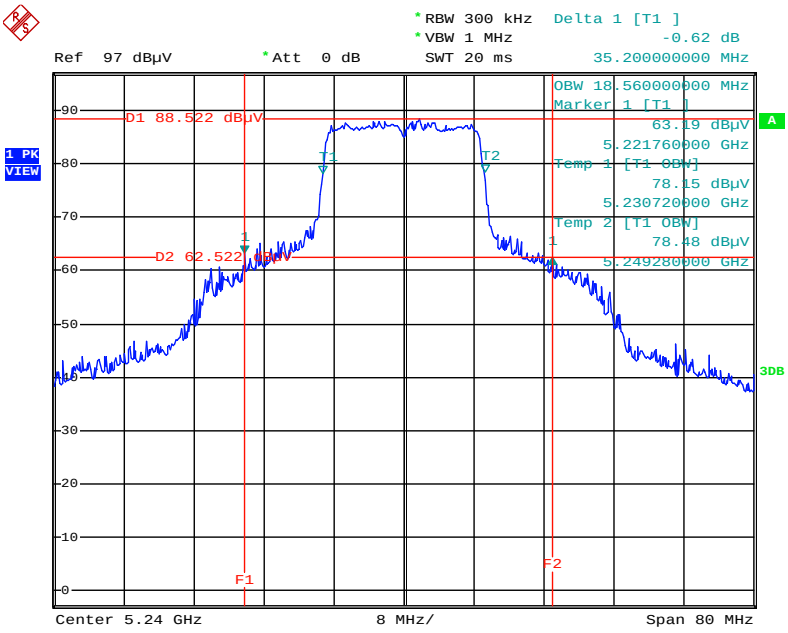
Date: 29.MAY.2014 13:03:42

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



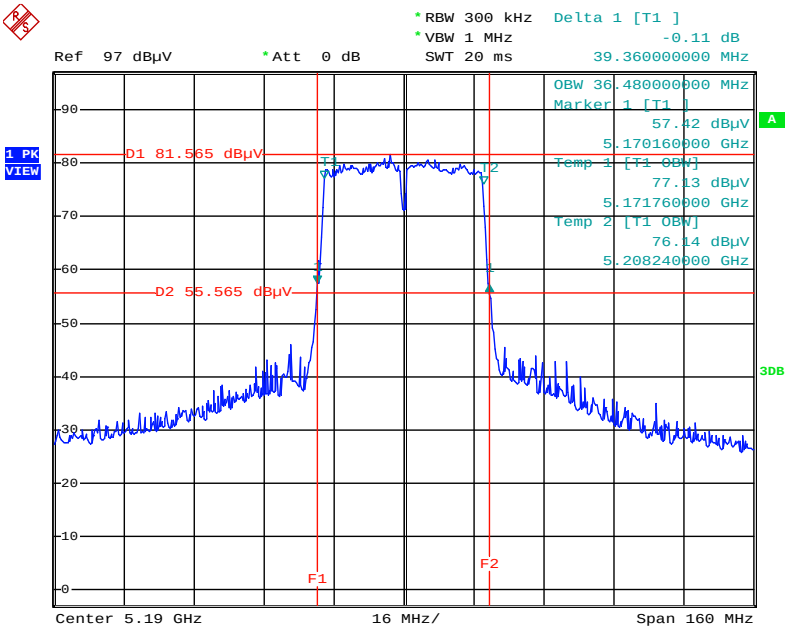
Date: 29.MAY.2014 13:04:36

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



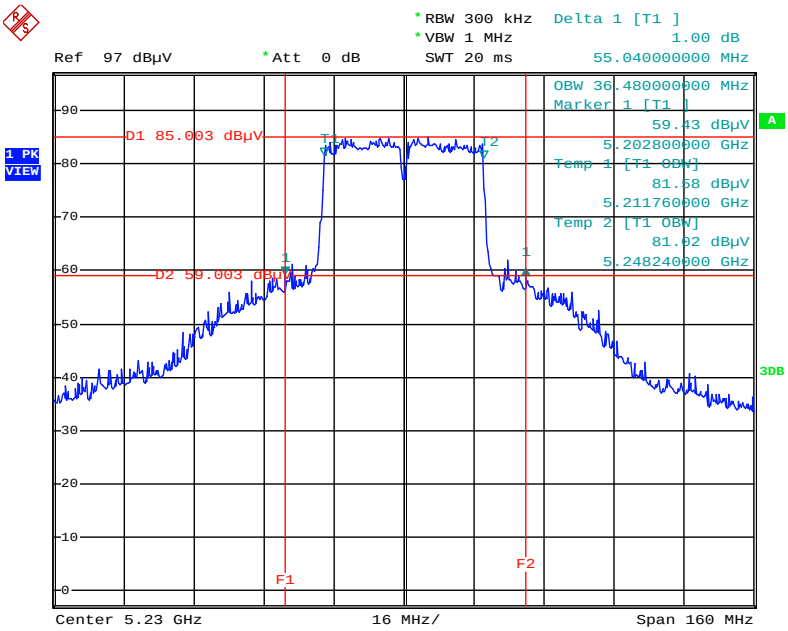
Date: 29.MAY.2014 13:05:08

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



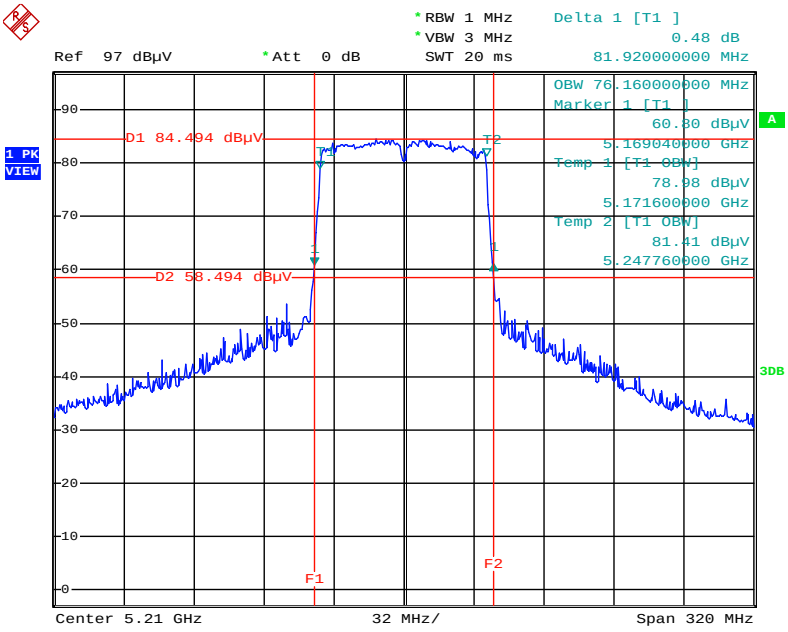
Date: 29.MAY.2014 13:07:06

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



Date: 29.MAY.2014 13:06:27

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

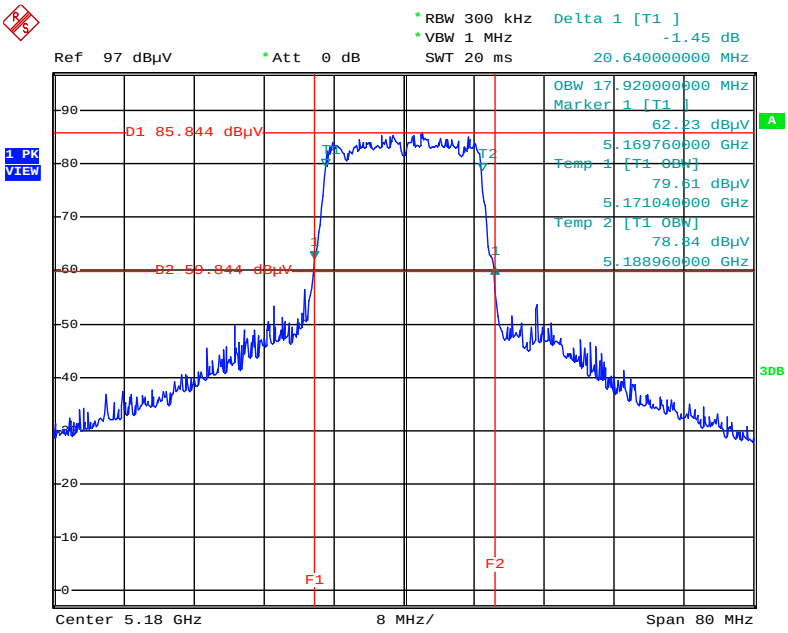


Date: 29.MAY.2014 13:07:58

<For STBC Mode>

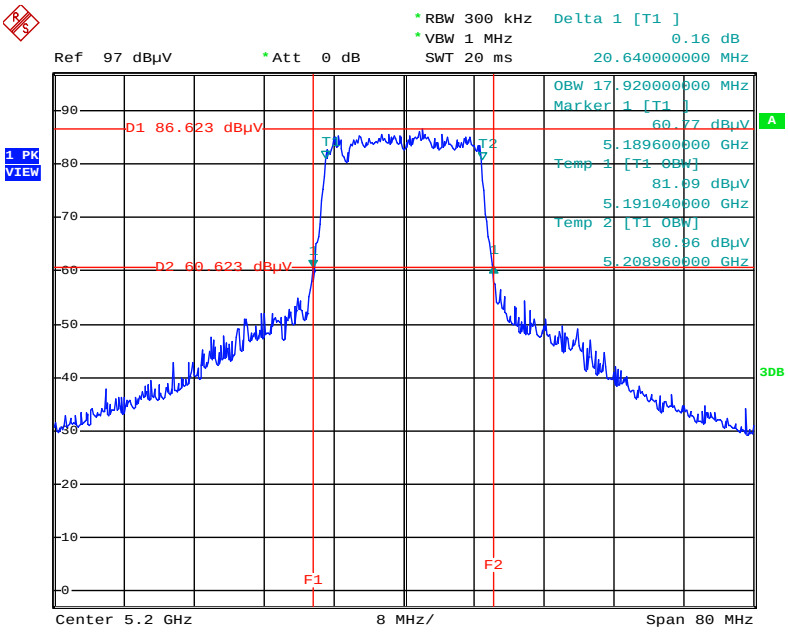
For 2TX

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



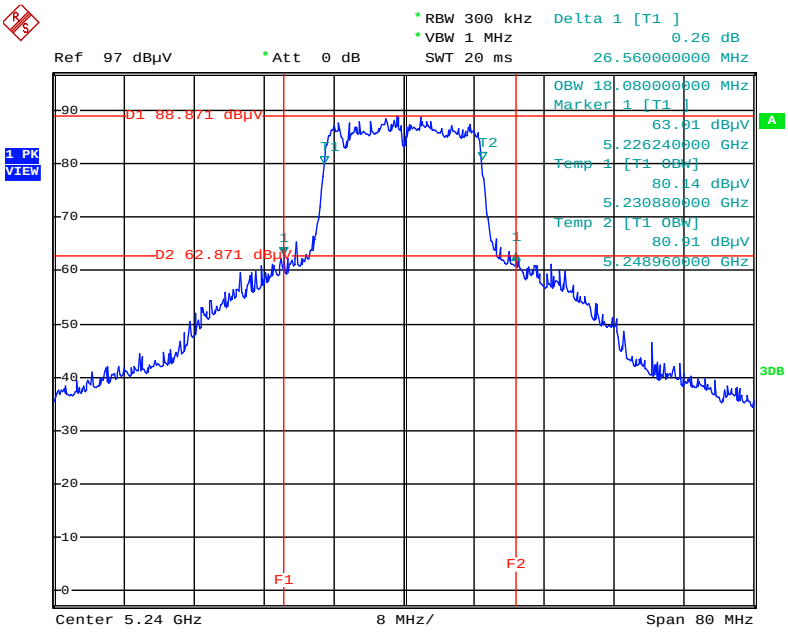
Date: 29.MAY.2014 14:28:31

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



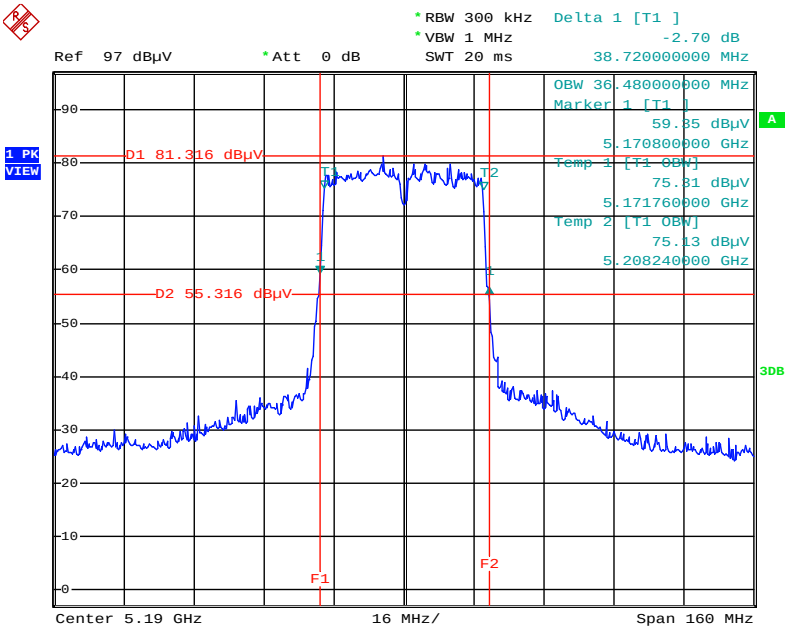
Date: 29.MAY.2014 14:29:16

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



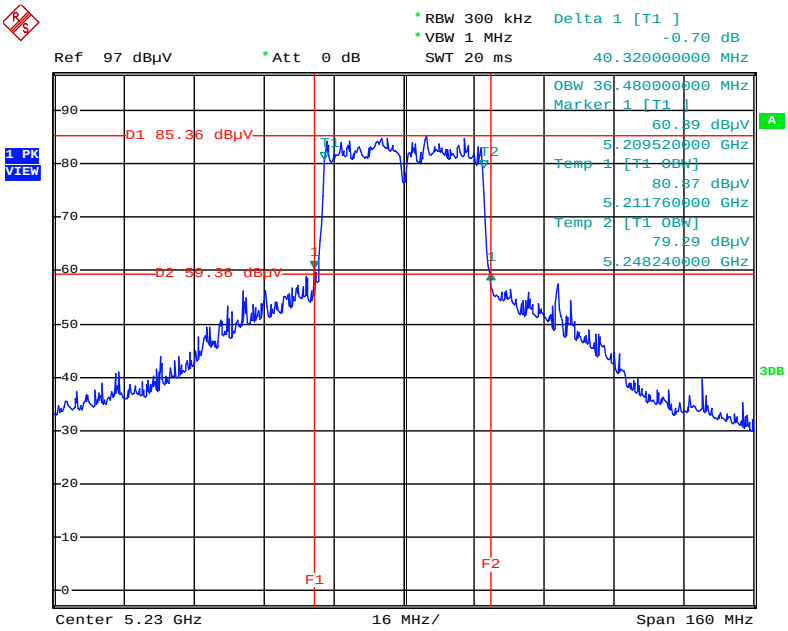
Date: 29.MAY.2014 14:29:52

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



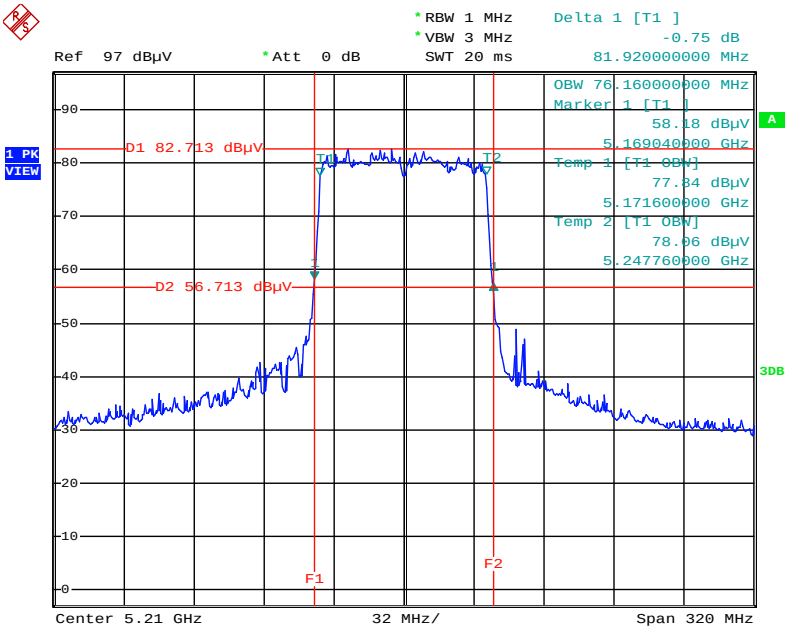
Date: 29.MAY.2014 14:31:39

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



Date: 29.MAY.2014 14:32:12

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



Date: 29.MAY.2014 14:32:59

4.3. 6dB Spectrum Bandwidth and 99% Occupied Bandwidth Measurement

4.3.1. Limit

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

4.3.2. Measuring Instruments and Setting

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

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> 6dB Bandwidth
RBW	approximately 1% of the emission bandwidth
VBW	VBW > RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

4.3.3. Test Procedures

For Radiated 6dB Bandwidth Measurement:

1. The transmitter was radiated to the spectrum analyzer in peak hold mode.
2. Test was performed in accordance with KDB789033 D02 v01 for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - section (C) Emission Bandwidth.
3. Multiple antenna system was performed in accordance with KDB662911 D01 v02r01 Emissions Testing of Transmitters with Multiple Outputs in the Same Band.
4. Measured the spectrum width with power higher than 6dB below carrier.

4.3.4. Test Setup Layout

For Radiated 6dB Bandwidth Measurement:

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

4.3.5. Test Deviation

There is no deviation with the original standard.

4.3.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.3.7. Test Result of 6dB Spectrum Bandwidth and 99% Occupied Bandwidth

<For Non-Beamforming Mode>

Temperature	20°C	Humidity	53%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac

For 1TX

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	17.60	17.68	500	Complies
157	5785 MHz	17.68	17.84	500	Complies
165	5825 MHz	17.60	17.68	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	36.48	36.32	500	Complies
159	5795 MHz	36.48	36.32	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	75.52	75.84	500	Complies

<For STBC Mode>

Temperature	20°C	Humidity	53%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac

For 2TX

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

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	17.60	17.68	500	Complies
157	5785 MHz	17.60	17.68	500	Complies
165	5825 MHz	17.52	17.68	500	Complies

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

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	35.52	36.16	500	Complies
159	5795 MHz	35.84	36.16	500	Complies

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

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	75.52	75.52	500	Complies

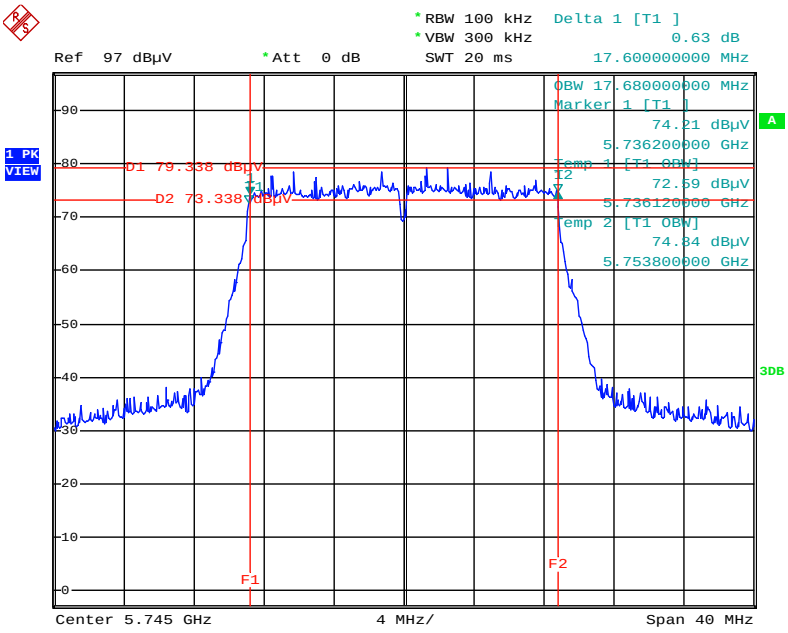
Note: All the test values were listed in the report.

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

<For Non-Beamforming Mode>

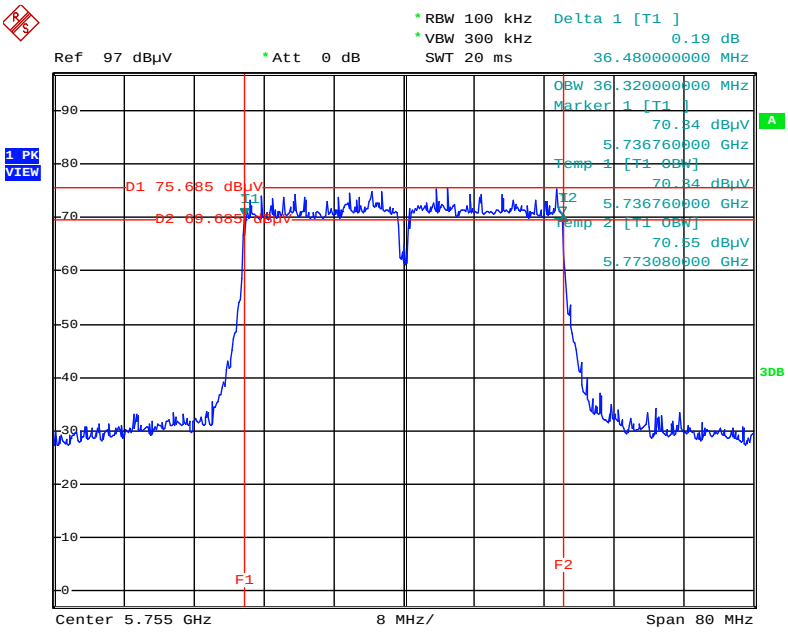
For 1TX

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



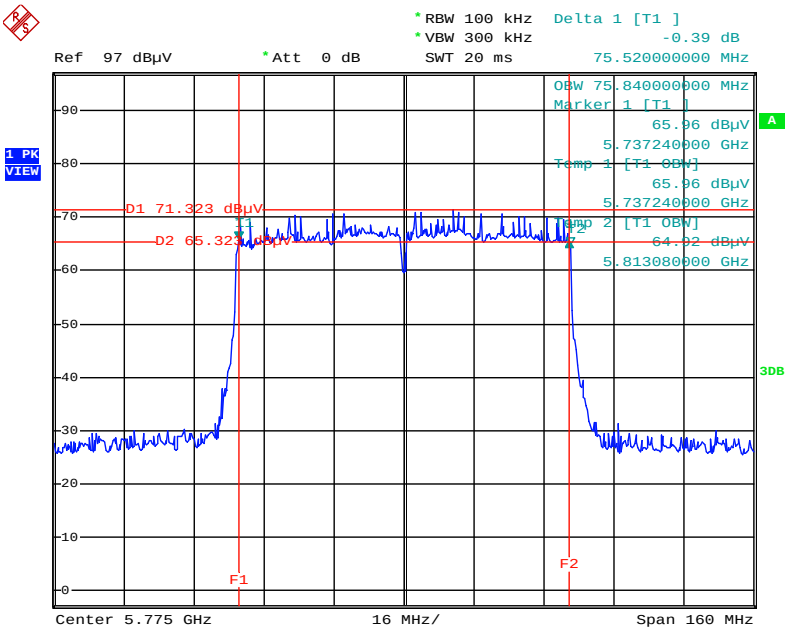
Date: 29.MAY.2014 11:57:09

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



Date: 29.MAY.2014 11:59:42

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

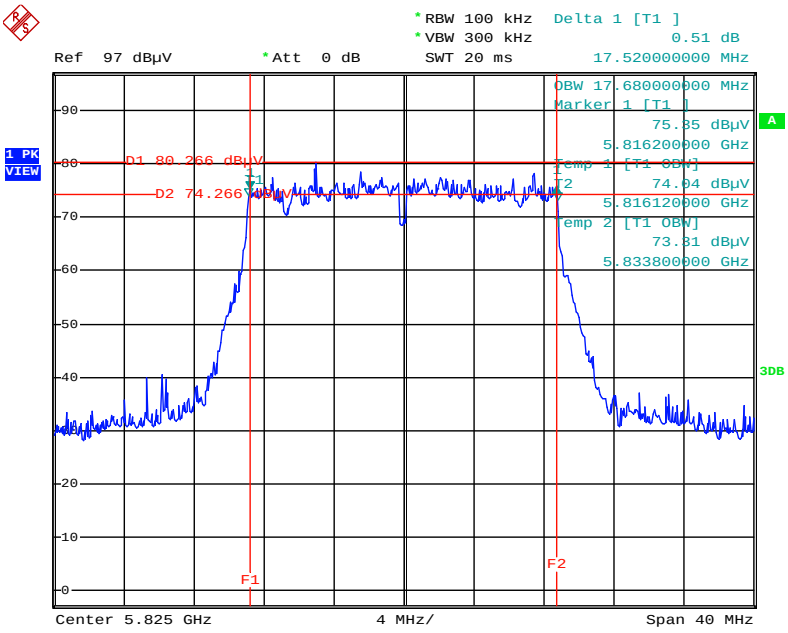


Date: 29.MAY.2014 12:01:15

<For STBC Mode>

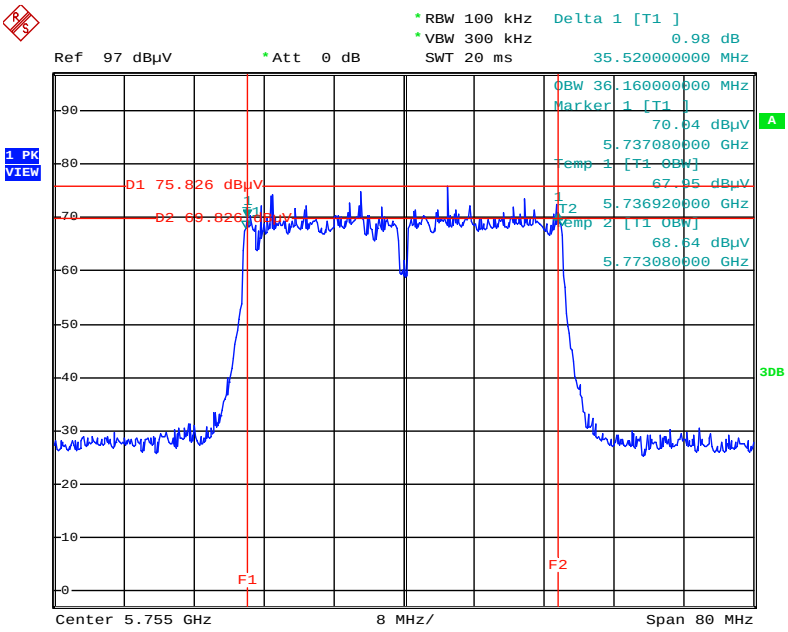
For 2TX

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



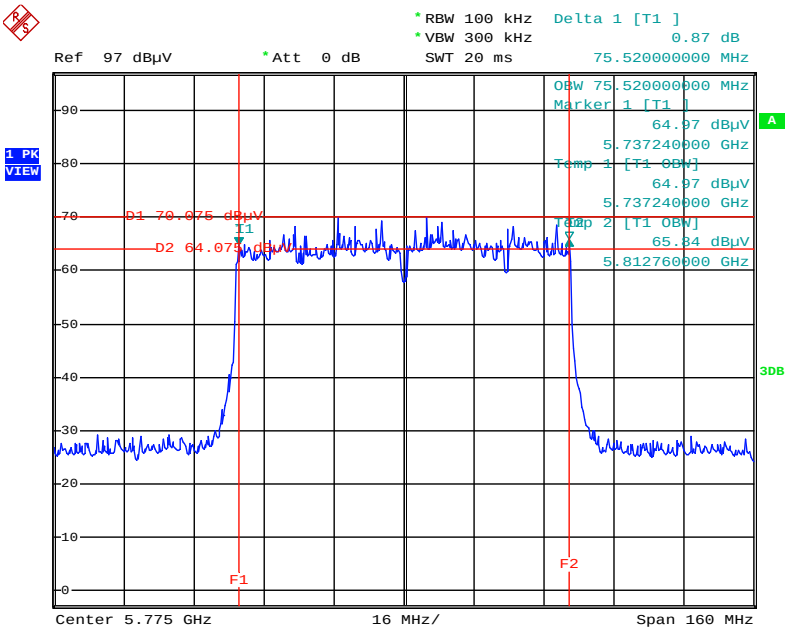
Date: 29.MAY.2014 14:13:35

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



Date: 29.MAY.2014 14:15:07

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



Date: 29.MAY.2014 14:16:05

4.4. Maximum Conducted Output Power Measurement

4.4.1. Limit

For the band 5.15~5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm) provided the maximum antenna gain does not exceed 6 dBi. 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.

For the band 5.725~5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm). 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. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

4.4.2. Measuring Instruments and Setting

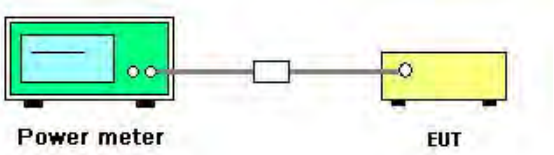
Please refer to section 5 of equipments list in this report. The following table is the setting of the power meter.

Power Meter Parameter	Setting
Detector	AVERAGE

4.4.3. 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.

4.4.4. 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 Maximum Conducted Output Power

<For Non-Beamforming Mode>

Temperature	20°C	Humidity	53%
Test Engineer	Jim Huang	Configurations	IEEE 802.11a/n/ac
Test Date	May 29, 2014		

For 1TX

Power Parameters of IEEE 802.11n MCS0 HT20 / Chain 2

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
36	5180 MHz	20.31	30.00	Complies
40	5200 MHz	21.71	30.00	Complies
48	5240 MHz	21.74	30.00	Complies
149	5745 MHz	17.07	30.00	Complies
157	5785 MHz	21.54	30.00	Complies
165	5825 MHz	17.38	30.00	Complies

Power Parameters of IEEE 802.11n MCS0 HT40 / Chain 2

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
38	5190 MHz	17.1	30.00	Complies
46	5230 MHz	21.2	30.00	Complies
151	5755 MHz	16.02	30.00	Complies
159	5795 MHz	17.66	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
36	5180 MHz	20.02	30.00	Complies
40	5200 MHz	21.74	30.00	Complies
48	5240 MHz	21.74	30.00	Complies
149	5745 MHz	16.96	30.00	Complies
157	5785 MHz	21.63	30.00	Complies
165	5825 MHz	17.26	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
38	5190 MHz	17.11	30.00	Complies
46	5230 MHz	21.26	30.00	Complies
151	5755 MHz	15.93	30.00	Complies
159	5795 MHz	17.43	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
42	5210 MHz	17.65	30.00	Complies
155	5775 MHz	14.26	30.00	Complies

Configuration IEEE 802.11a / Chain 2

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
36	5180 MHz	19.64	30.00	Complies
40	5200 MHz	21.86	30.00	Complies
48	5240 MHz	21.73	30.00	Complies
149	5745 MHz	17.36	30.00	Complies
157	5785 MHz	20.63	30.00	Complies
165	5825 MHz	18.57	30.00	Complies

Temperature	20°C	Humidity	53%
Test Engineer	Jim Huang	Configurations	IEEE 802.11a/n/ac
Test Date	May 29, 2014		

For 2TX

Power Parameters of IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
36	5180 MHz	18.1	18.22	21.17	30.00	Complies
40	5200 MHz	18.17	18.57	21.38	30.00	Complies
48	5240 MHz	19.66	19.95	22.82	30.00	Complies
149	5745 MHz	16.69	17.15	19.94	30.00	Complies
157	5785 MHz	17.98	18.51	21.26	30.00	Complies
165	5825 MHz	17.06	17.61	20.35	30.00	Complies

Power Parameters of IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
38	5190 MHz	14.77	15.06	17.93	30.00	Complies
46	5230 MHz	19.74	20.05	22.91	30.00	Complies
151	5755 MHz	14.29	14.63	17.47	30.00	Complies
159	5795 MHz	15.98	16.51	19.26	30.00	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		
36	5180 MHz	18.36	18.75	21.57	30.00	Complies
40	5200 MHz	18.07	18.45	21.27	30.00	Complies
48	5240 MHz	20.05	20.1	23.09	30.00	Complies
149	5745 MHz	16.71	17.08	19.91	30.00	Complies
157	5785 MHz	18.03	18.46	21.26	30.00	Complies
165	5825 MHz	16.59	17.01	19.82	30.00	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		
38	5190 MHz	15.78	15.98	18.89	30.00	Complies
46	5230 MHz	20.38	20.47	23.44	30.00	Complies
151	5755 MHz	13.94	14.32	17.14	30.00	Complies
159	5795 MHz	16.17	16.86	19.54	30.00	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		
42	5210 MHz	14.34	14.98	17.68	30.00	Complies
155	5775 MHz	10.68	11.62	14.19	30.00	Complies

Configuration IEEE 802.11a / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
36	5180 MHz	18.47	18.91	21.71	30.00	Complies
40	5200 MHz	18.23	18.58	21.42	30.00	Complies
48	5240 MHz	19.32	19.44	22.39	30.00	Complies
149	5745 MHz	16.40	16.82	19.63	30.00	Complies
157	5785 MHz	17.59	18.01	20.82	30.00	Complies
165	5825 MHz	17.42	18.04	20.75	30.00	Complies

<For Beamforming Mode>

Temperature	20°C	Humidity	53%
Test Engineer	Serway Li	Configurations	IEEE 802.11a/ac
Test Date	May 29, 2014		

For 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		
36	5180 MHz	15.42	15.7	18.57	27.07	Complies
40	5200 MHz	16.07	16.62	19.36	27.07	Complies
48	5240 MHz	17.17	17.55	20.37	27.07	Complies
149	5745 MHz	11.97	12.51	15.26	27.07	Complies
157	5785 MHz	12.68	13.71	16.24	27.07	Complies
165	5825 MHz	11.64	12.46	15.08	27.07	Complies

Note: $Directional\ gain = G_{ANT} + 10\ log(N_{ANT}/N_{SS})$=8.93dBi >6dBi,So Band1 Limit =30-(8.93-6)=27.07dBm

=8.93dBi >6dBi,So Band4 Limit =30-(8.93-6)=27.07dBm

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		
38	5190 MHz	14	14.14	17.08	27.07	Complies
46	5230 MHz	17.44	17.61	20.54	27.07	Complies
151	5755 MHz	10.36	10.61	13.50	27.07	Complies
159	5795 MHz	10.96	11.53	14.26	27.07	Complies

Note: $Directional\ gain = G_{ANT} + 10\ log(N_{ANT}/N_{SS})$=8.93dBi >6dBi,So Band1 Limit =30-(8.93-6)=27.07dBm

=8.93dBi >6dBi,So Band4 Limit =30-(8.93-6)=27.07dBm

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		
42	5210 MHz	11.85	12.5	15.20	27.07	Complies
155	5775 MHz	7.09	8.18	10.68	27.07	Complies

Note: $Directional\ gain = G_{ANT} + 10\ log(N_{ANT}/N_{SS})$=8.93dBi >6dBi,So Band1 Limit =30-(8.93-6)=27.07dBm

=8.93dBi >6dBi,So Band4 Limit =30-(8.93-6)=27.07dBm

Configuration IEEE 802.11a / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
36	5180 MHz	15.36	15.53	18.46	27.07	Complies
40	5200 MHz	16.28	16.47	19.39	27.07	Complies
48	5240 MHz	17.05	17.42	20.25	27.07	Complies
149	5745 MHz	11.78	12.39	15.11	27.07	Complies
157	5785 MHz	12.98	13.35	16.18	27.07	Complies
165	5825 MHz	11.87	12.28	15.09	27.07	Complies

Note: $Directional\ gain = G_{ANT} + 10\ log(N_{ANT}/N_{SS})$=8.93dBi >6dBi,So Band1 Limit =30-(8.93-6)=27.07dBm

=8.93dBi >6dBi,So Band4 Limit =30-(8.93-6)=27.07dBm

<For STBC Mode>

Temperature	20°C	Humidity	53%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n/ac
Test Date	May 29, 2014		

For 2TX

Power Parameters of IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
36	5180 MHz	18.65	19.21	21.95	30.00	Complies
40	5200 MHz	19.13	19.54	22.35	30.00	Complies
48	5240 MHz	21.44	21.6	24.53	30.00	Complies
149	5745 MHz	16.13	16.64	19.40	30.00	Complies
157	5785 MHz	19.65	20.25	22.97	30.00	Complies
165	5825 MHz	16.58	17.05	19.83	30.00	Complies

Power Parameters of IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
38	5190 MHz	15.78	16	18.90	30.00	Complies
46	5230 MHz	20.97	21.01	24.00	30.00	Complies
151	5755 MHz	14.72	15.25	18.00	30.00	Complies
159	5795 MHz	15.75	16.33	19.06	30.00	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		
36	5180 MHz	18.43	18.83	21.64	30.00	Complies
40	5200 MHz	19.06	19.6	22.35	30.00	Complies
48	5240 MHz	21.77	21.85	24.82	30.00	Complies
149	5745 MHz	16.12	16.55	19.35	30.00	Complies
157	5785 MHz	17.95	18.52	21.25	30.00	Complies
165	5825 MHz	16.57	17.06	19.83	30.00	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		
38	5190 MHz	15.78	16.03	18.92	30.00	Complies
46	5230 MHz	20.94	20.99	23.98	30.00	Complies
151	5755 MHz	13.65	14.19	16.94	30.00	Complies
159	5795 MHz	15.75	16.34	19.07	30.00	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		
42	5210 MHz	14.91	15.55	18.25	30.00	Complies
155	5775 MHz	11.68	12.76	15.26	30.00	Complies

4.5. Power Spectral Density Measurement

4.5.1. 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 4.4.1.

Frequency Range	Power Spectral Density limit
5.15~5.25 GHz	17 dBm/MHz
5.725~5.85 GHz	30 dBm/500kHz

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 the spectrum analyzer.

For 5.15~5.25 GHz

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

For 5.725~5.85 GHz

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Set the span to 1.5 times the DTS channel bandwidth.
RBW	RBW ≥ 1/T
VBW	VBW ≥ 3 RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto couple
Note: If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10log(500kHz/RBW) to the measured result, whereas RBW (< 500 kHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.	

4.5.3. Test Procedures

For 5.15~5.25 GHz

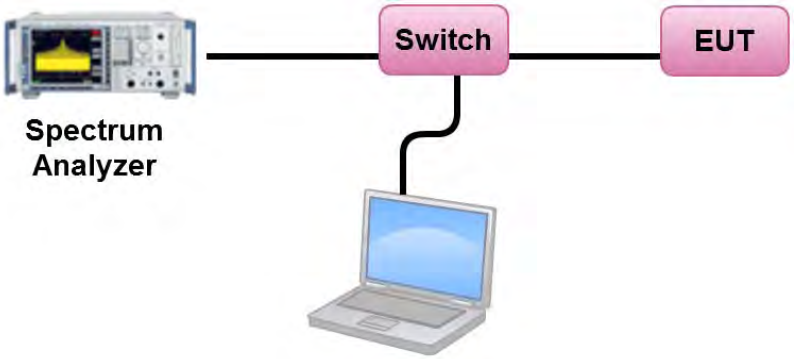
1. The transmitter output (antenna port) was connected RF switch to the spectrum analyzer.
2. Test was performed in accordance with KDB789033 D02 v01 for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - section (F) Maximum Power Spectral Density (PSD).
3. Multiple 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.

For 5.725~5.85 GHz

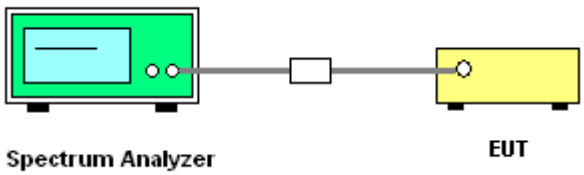
1. Test procedures refer KDB662911 D01 v02r01 section In-Band Power Spectral Density (PSD) Measurements option (b) Measure and sum spectral maximal across the outputs.
2. Use this procedure when the maximum conducted output power in the fundamental emission is used to demonstrate compliance. The EUT must be configured to transmit continuously at full power over the measurement duration.
3. Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW (use of a greater number of measurement points than this minimum requirement is recommended).
4. Use the peak marker function to determine the maximum level in any 3 kHz band segment within the fundamental EBW.
5. The measured result of PSD level must add 10log(500kHz/RBW) and the final result should ≤ 30 dBm.

4.5.4. Test Setup Layout

For 5.15~5.25 GHz



For 5.725~5.85 GHz



4.5.5. Test Deviation

There is no deviation with the original standard.

4.5.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.5.7. Test Result of Power Spectral Density

<For Non-Beamforming Mode>

Temperature	20°C	Humidity	53%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac
Test Date	May 29, 2014		

For 1TX

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	6.35	17.00	Complies
40	5200 MHz	8.07	17.00	Complies
48	5240 MHz	8.26	17.00	Complies

Channel	Frequency	Total Power Density (dBm/3kHz)	BWCF factor	Total Power Density	Power Density Limit	Result
			3kHz to 500kHz	dBm/500kHz		
149	5745 MHz	-8.50	22.22	13.72	30.00	Complies
157	5785 MHz	-3.28	22.22	18.94	30.00	Complies
165	5825 MHz	-8.19	22.22	14.03	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
38	5190 MHz	0.67	17.00	Complies
46	5230 MHz	4.83	17.00	Complies

Channel	Frequency	Total Power Density (dBm/3kHz)	BWCF factor	Total Power Density	Power Density Limit	Result
			3kHz to 500kHz	dBm/500kHz		
151	5755 MHz	-13.40	22.22	8.82	30.00	Complies
159	5795 MHz	-11.10	22.22	11.12	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
42	5210 MHz	-1.70	17.00	Complies

Channel	Frequency	Total Power Density (dBm/3kHz)	BWCF factor	Total Power Density	Power Density Limit	Result
			3kHz to 500kHz	dBm/500kHz		
155	5775 MHz	-15.90	22.22	6.32	30.00	Complies

Temperature	20°C	Humidity	53%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac
Test Date	May 29, 2014		

For 2TX

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

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	7.92	14.07	Complies
40	5200 MHz	7.64	14.07	Complies
48	5240 MHz	9.39	14.07	Complies

Note: $Directional\ gain = G_{ANT} + 10\ log(N_{ANT}/N_{SS})$=8.93dBi >6dBi,So Band1 Limit =17-(8.93-6)=14.07dBm/MHz

Channel	Frequency	Power Density (dBm/3kHz)			BWCF factor	Total Power Density	Power Density Limit	Result
		Chain 1	Chain 2	Total	3kHz to 500kHz	dBm/500kHz		
149	5745 MHz	-10.14	-10.20	-7.16	22.22	15.06	27.07	Complies
157	5785 MHz	-7.51	-8.45	-4.94	22.22	17.28	27.07	Complies
165	5825 MHz	-9.19	-8.60	-5.87	22.22	16.35	27.07	Complies

Note: $Directional\ gain = G_{ANT} + 10\ log(N_{ANT}/N_{SS})$=8.93dBi >6dBi,So Band4 Limit =30-(8.93-6)=27.07dBm

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

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
38	5190 MHz	2.46	14.07	Complies
46	5230 MHz	6.74	14.07	Complies

Note: $Directional\ gain = G_{ANT} + 10\ log(N_{ANT}/N_{SS})$=8.93dBi >6dBi,So Band1 Limit =17-(8.93-6)=14.07dBm/MHz

Channel	Frequency	Power Density (dBm/3kHz)			BWCF factor	Total Power Density	Power Density Limit	Result
		Chain 1	Chain 2	Total	3kHz to 500kHz	dBm/500kHz		
151	5755 MHz	-15.44	-15.03	-12.22	22.22	10.00	27.07	Complies
159	5795 MHz	-12.70	-13.91	-10.25	22.22	11.97	27.07	Complies

Note: $Directional\ gain = G_{ANT} + 10\ log(N_{ANT}/N_{SS})$=8.93dBi >6dBi,So Band4 Limit =30-(8.93-6)=27.07dBm

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

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
42	5210 MHz	-1.81	14.07	Complies

Note: $Directional\ gain = G_{ANT} + 10\ log(N_{ANT}/N_{SS})$=8.93dBi >6dBi,So Band1 Limit =17-(8.93-6)=14.07dBm/MHz

Channel	Frequency	Power Density (dBm/3kHz)			BWCF factor	Total Power Density	Power Density Limit	Result
		Chain 1	Chain 2	Total	3kHz to 500kHz	dBm/500kHz		
155	5775 MHz	-22.43	-21.93	-19.16	22.22	3.06	27.07	Complies

Note: $Directional\ gain = G_{ANT} + 10\ log(N_{ANT}/N_{SS})$=8.93dBi >6dBi,So Band4 Limit =30-(8.93-6)=27.07dBm

<For Beamforming Mode>

Temperature	20°C	Humidity	53%
Test Engineer	Serway Li	Configurations	IEEE 802.11ac
Test Date	May 29, 2014		

For 2TX

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

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	4.94	14.07	Complies
40	5200 MHz	5.78	14.07	Complies
48	5240 MHz	6.74	14.07	Complies

Note: $Directional\ gain = G_{ANT} + 10\ log(N_{ANT}/N_{SS})$=8.93dBi >6dBi,So Band1 Limit =17-(8.93-6)=14.07dBm/MHz

Channel	Frequency	Power Density (dBm/3kHz)			BWCF factor	Total Power Density	Power Density Limit	Result
		Chain 1	Chain 2	Total	3kHz to 500kHz	dBm/500kHz		
149	5745 MHz	-13.25	-12.86	-10.04	22.22	12.18	27.07	Complies
157	5785 MHz	-12.74	-12.12	-9.41	22.22	12.81	27.07	Complies
165	5825 MHz	-13.49	-13.28	-10.37	22.22	11.85	27.07	Complies

Note: $Directional\ gain = G_{ANT} + 10\ log(N_{ANT}/N_{SS})$=8.93dBi >6dBi,So Band4 Limit =30-(8.93-6)=27.07dBm

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

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
38	5190 MHz	0.64	14.07	Complies
46	5230 MHz	4.02	14.07	Complies

Note: $Directional\ gain = G_{ANT} + 10\ log(N_{ANT}/N_{SS})$=8.93dBi >6dBi,So Band1 Limit =17-(8.93-6)=14.07dBm/MHz

Channel	Frequency	Power Density (dBm/3kHz)			BWCF factor	Total Power Density	Power Density Limit	Result
		Chain 1	Chain 2	Total	3kHz to 500kHz	dBm/500kHz		
151	5755 MHz	-18.76	-18.41	-15.57	22.22	6.65	27.07	Complies
159	5795 MHz	-16.70	-16.68	-13.68	22.22	8.54	27.07	Complies

Note: $Directional\ gain = G_{ANT} + 10\ log(N_{ANT}/N_{SS})$=8.93dBi >6dBi,So Band4 Limit =30-(8.93-6)=27.07dBm

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

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
42	5210 MHz	-4.24	14.07	Complies

Note: $Directional\ gain = G_{ANT} + 10\ log(N_{ANT}/N_{SS})$=8.93dBi >6dBi,So Band1 Limit =17-(8.93-6)=14.07dBm/MHz

Channel	Frequency	Power Density (dBm/3kHz)			BWCF factor	Total Power Density	Power Density Limit	Result
		Chain 1	Chain 2	Total	3kHz to 500kHz	dBm/500kHz		
155	5775 MHz	-22.54	-22.11	-19.31	22.22	2.91	27.07	Complies

Note: $Directional\ gain = G_{ANT} + 10\ log(N_{ANT}/N_{SS})$=8.93dBi >6dBi,So Band4 Limit =30-(8.93-6)=27.07dBm

<For STBC Mode>

Temperature	20°C	Humidity	53%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac
Test Date	May 29, 2014		

For 2TX

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

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	7.93	17.00	Complies
40	5200 MHz	8.53	17.00	Complies
48	5240 MHz	10.86	17.00	Complies

Note: $Directional\ gain = G_{ANT} + 10\ log(N_{ANT}/N_{SS})$=5.92dBi <6dBi, so the limit doesn't reduce.

Channel	Frequency	Power Density (dBm/3kHz)			BWCF factor	Total Power Density	Power Density Limit	Result
		Chain 1	Chain 2	Total	3kHz to 500kHz	dBm/500kHz		
149	5745 MHz	-9.76	-8.45	-6.05	22.22	16.17	30.00	Complies
157	5785 MHz	-7.66	-6.87	-4.24	22.22	17.98	30.00	Complies
165	5825 MHz	-9.12	-8.96	-6.03	22.22	16.19	30.00	Complies

Note: $Directional\ gain = G_{ANT} + 10\ log(N_{ANT}/N_{SS})$=5.92dBi <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
38	5190 MHz	2.35	17.00	Complies
46	5230 MHz	7.22	17.00	Complies

Note: $Directional\ gain = G_{ANT} + 10\ log(N_{ANT}/N_{SS})$=5.92dBi <6dBi, so the limit doesn't reduce.

Channel	Frequency	Power Density (dBm/3kHz)			BWCF factor	Total Power Density	Power Density Limit	Result
		Chain 1	Chain 2	Total	3kHz to 500kHz	dBm/500kHz		
151	5755 MHz	-15.21	-14.35	-11.75	22.22	10.47	30.00	Complies
159	5795 MHz	-12.58	-11.96	-9.25	22.22	12.97	30.00	Complies

Note: $Directional\ gain = G_{ANT} + 10\ log(N_{ANT}/N_{SS})$=5.92dBi <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
42	5210 MHz	-1.50	17.00	Complies

Note: $Directional\ gain = G_{ANT} + 10\ log(N_{ANT}/N_{SS})$=5.92dBi <6dBi, so the limit doesn't reduce.

Channel	Frequency	Power Density (dBm/3kHz)			BWCF factor	Total Power Density	Power Density Limit	Result
		Chain 1	Chain 2	Total	3kHz to 500kHz	dBm/500kHz		
155	5775 MHz	-18.52	-17.88	-15.18	22.22	7.04	30.00	Complies

Note: $Directional\ gain = G_{ANT} + 10\ log(N_{ANT}/N_{SS})$=5.92dBi <6dBi, so the limit doesn't reduce.

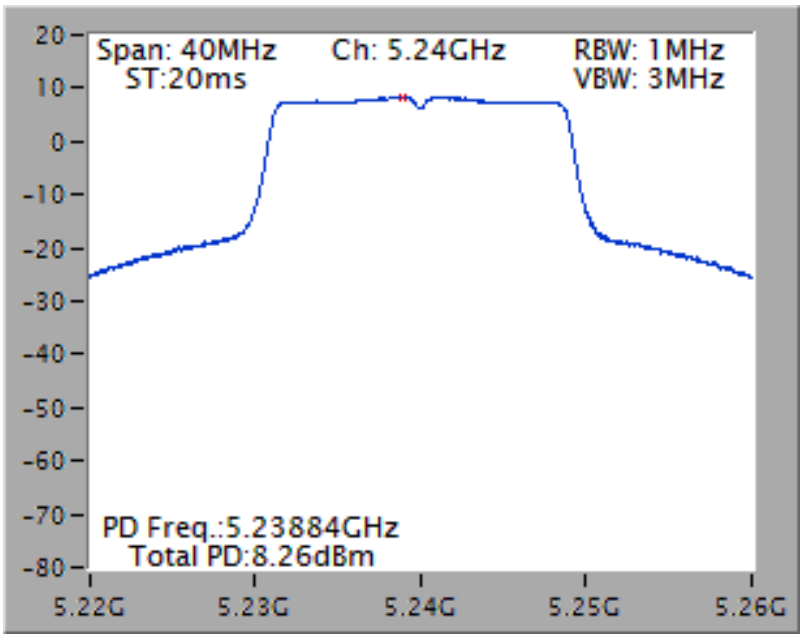
Note: All the test values were listed in the report.

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

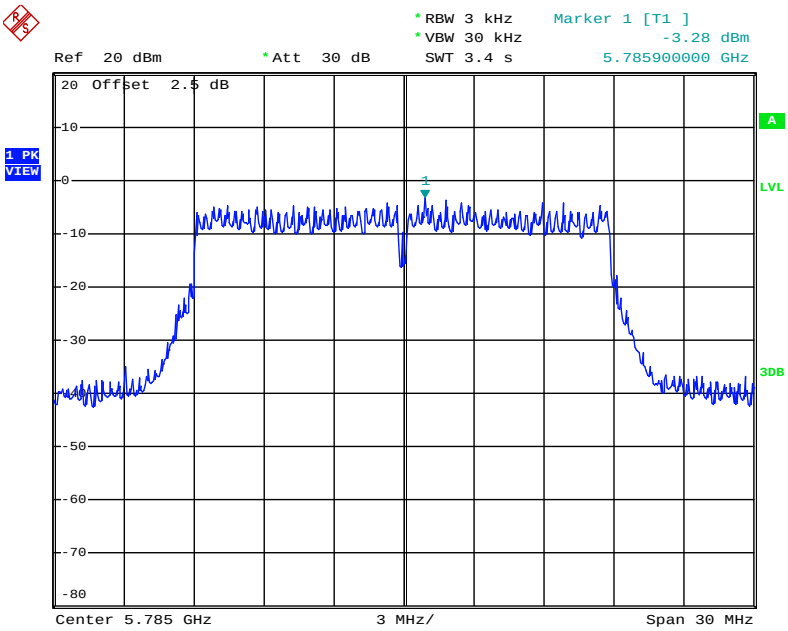
<For Non-Beamforming Mode>

For 1TX

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2 / 5240 MHz

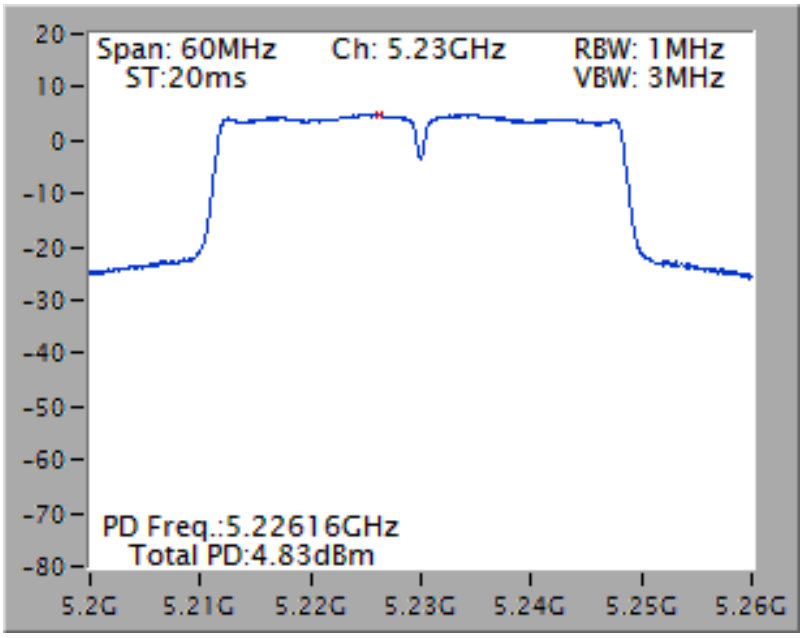


Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2 / 5785 MHz

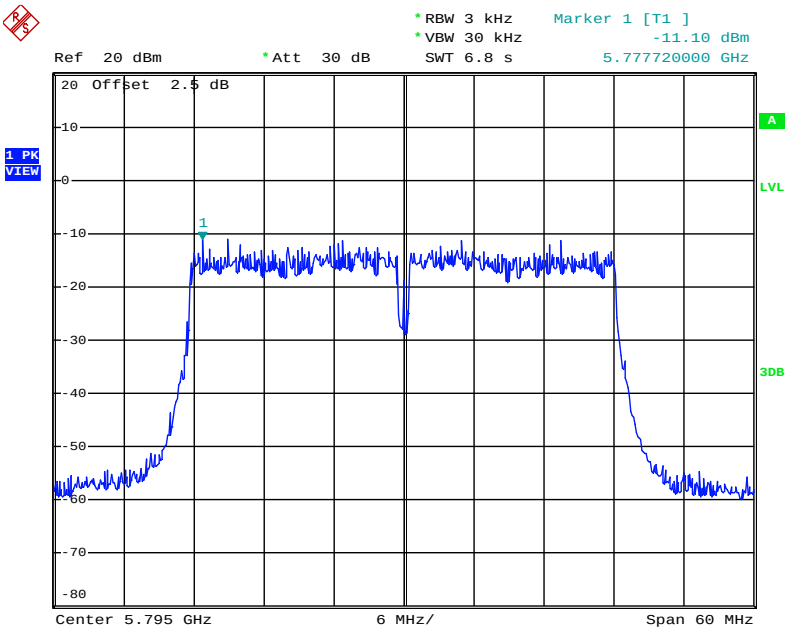


Date: 29.MAY.2014 12:15:33

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2 / 5230 MHz

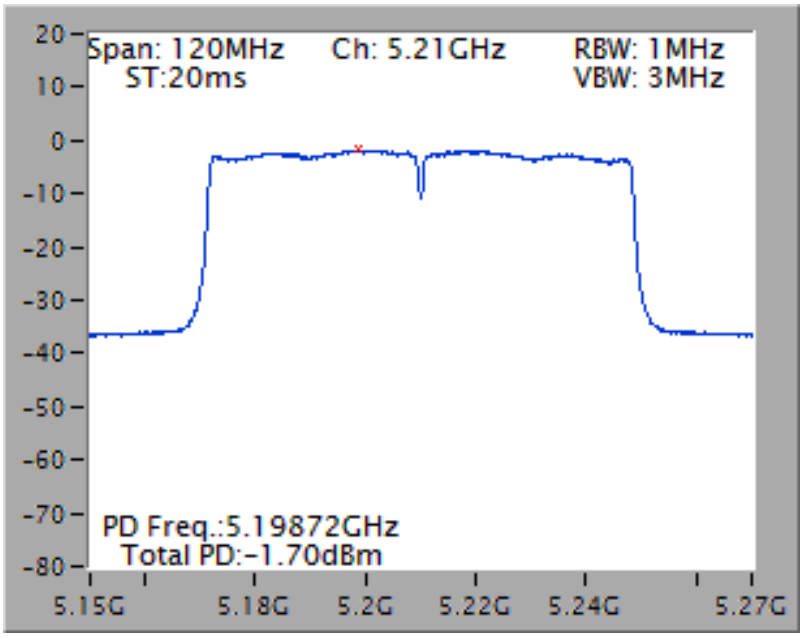


Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2 / 5795 MHz

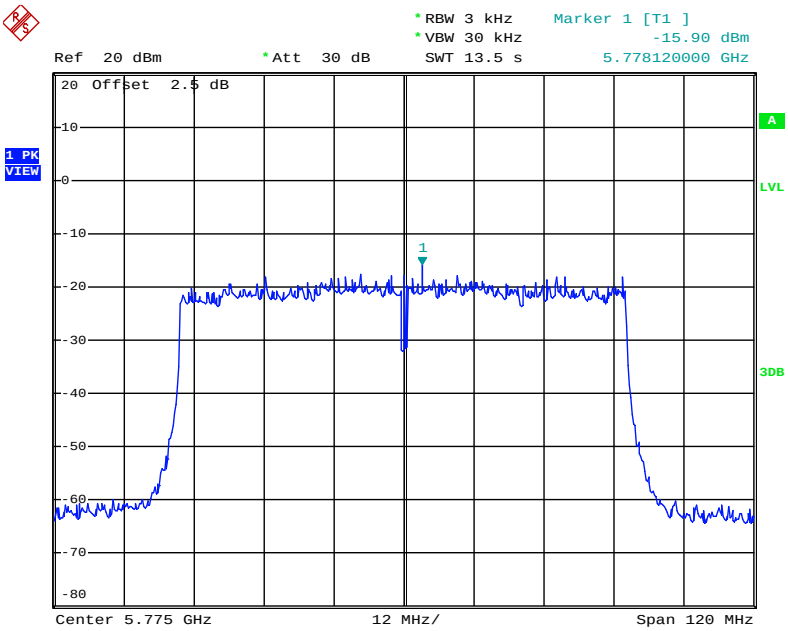


Date: 29.MAY.2014 12:39:10

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2 / 5210 MHz



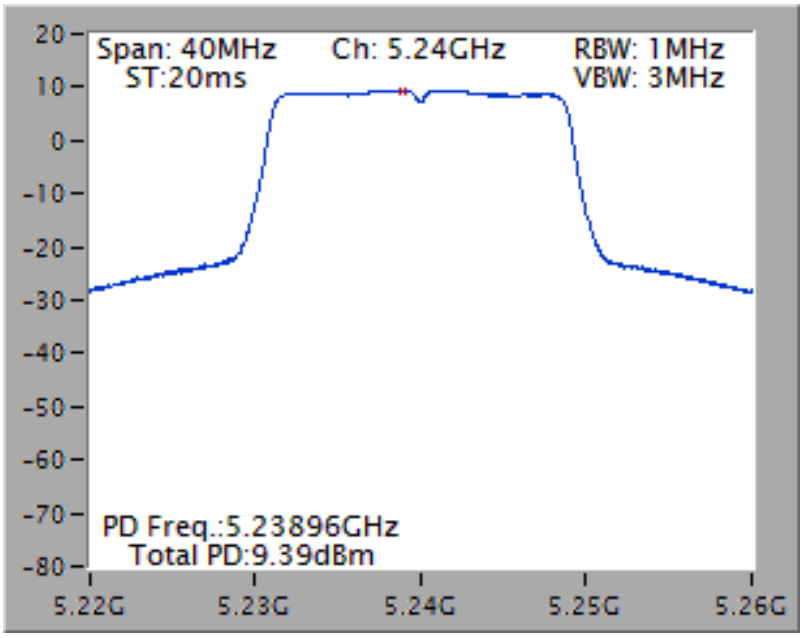
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2 / 5775 MHz



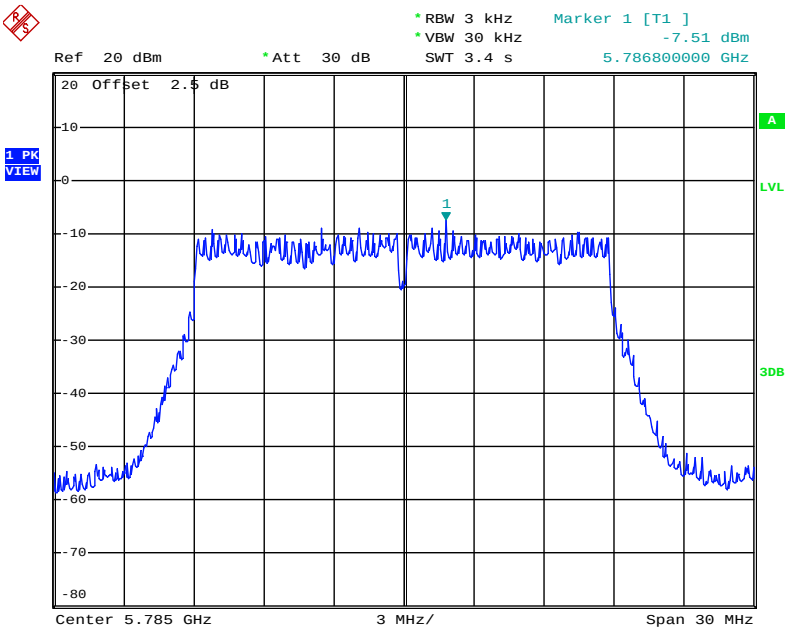
Date: 29.MAY.2014 12:43:28

For 2TX

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 / 5240 MHz

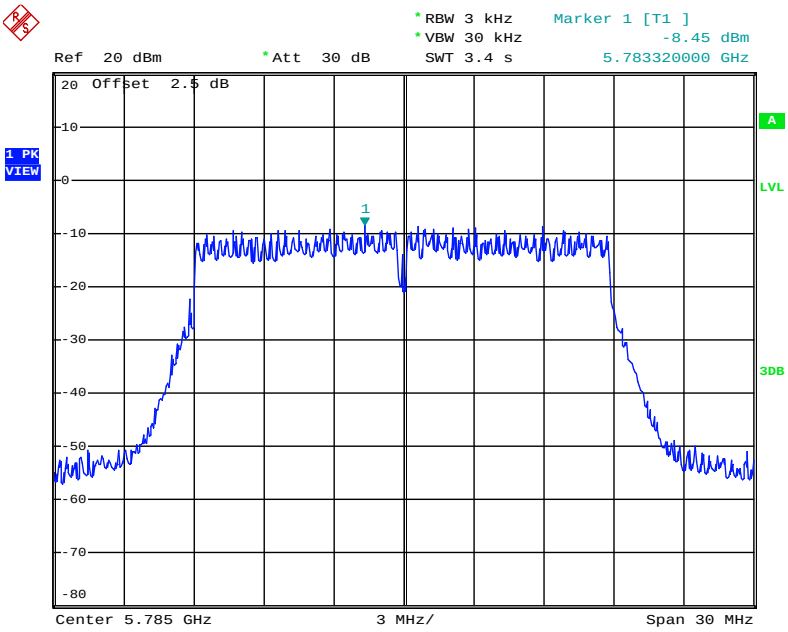


Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 / 5785 MHz

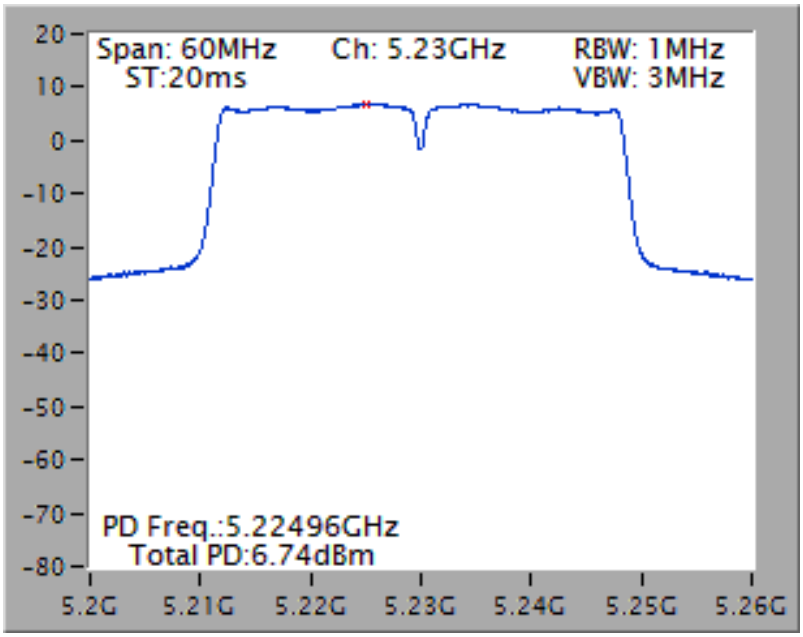


Date: 3.JUN.2014 08:54:03

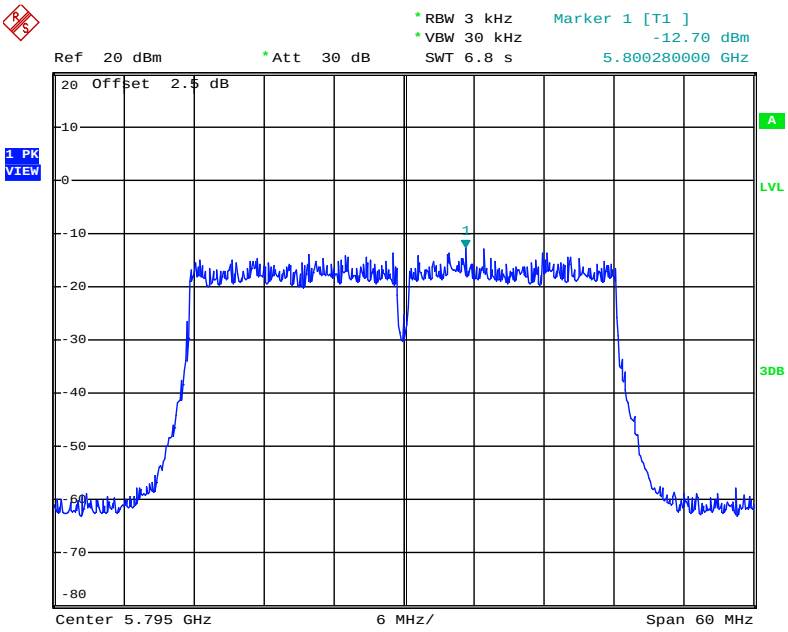
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2 / 5785 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 / 5230 MHz

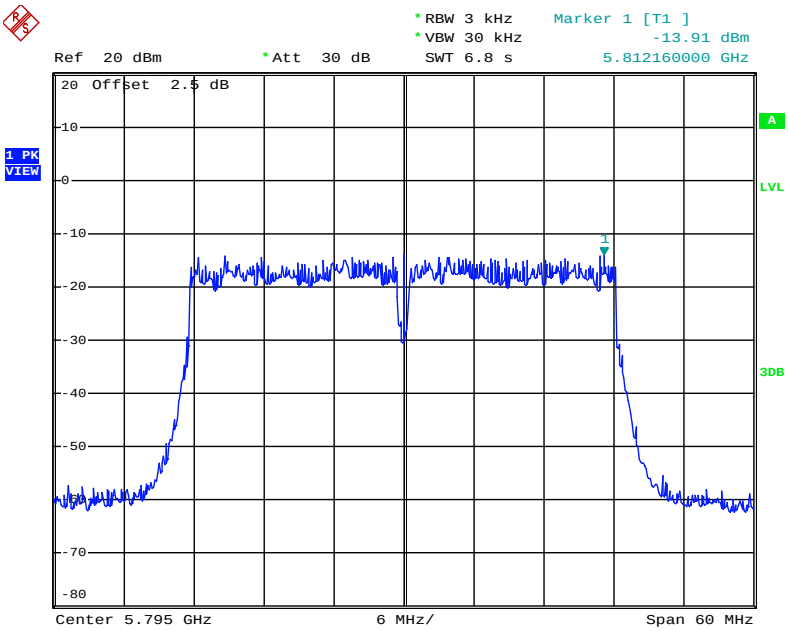


Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 / 5795 MHz



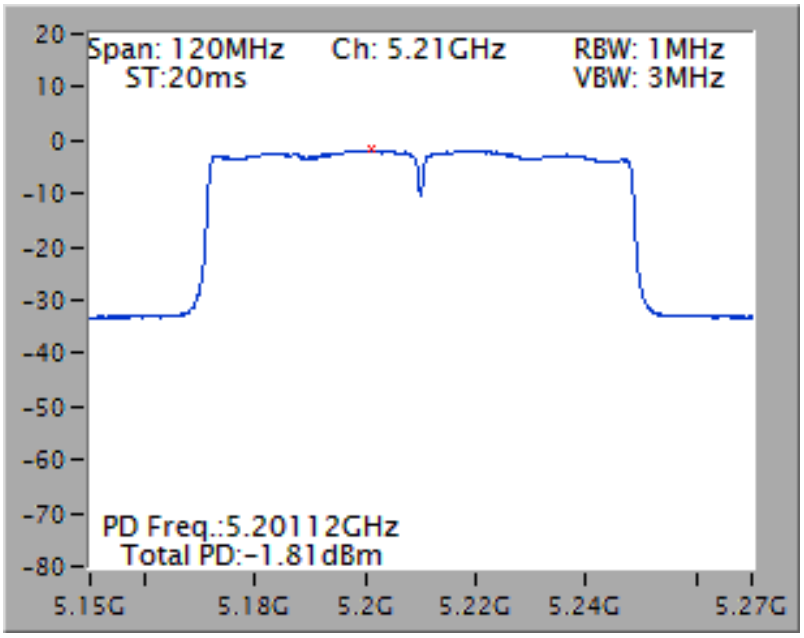
Date: 3.JUN.2014 08:58:40

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2 / 5795 MHz

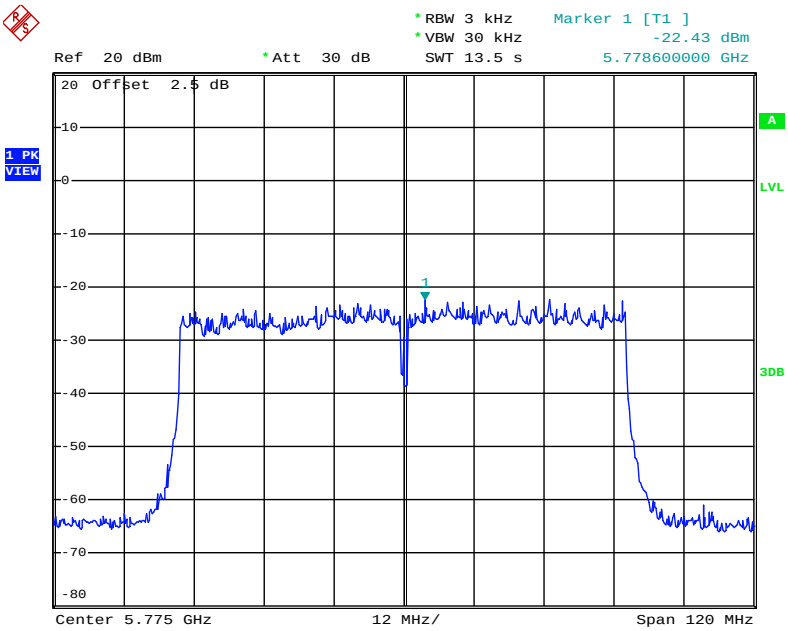


Date: 3.JUN.2014 08:59:31

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 / 5210 MHz

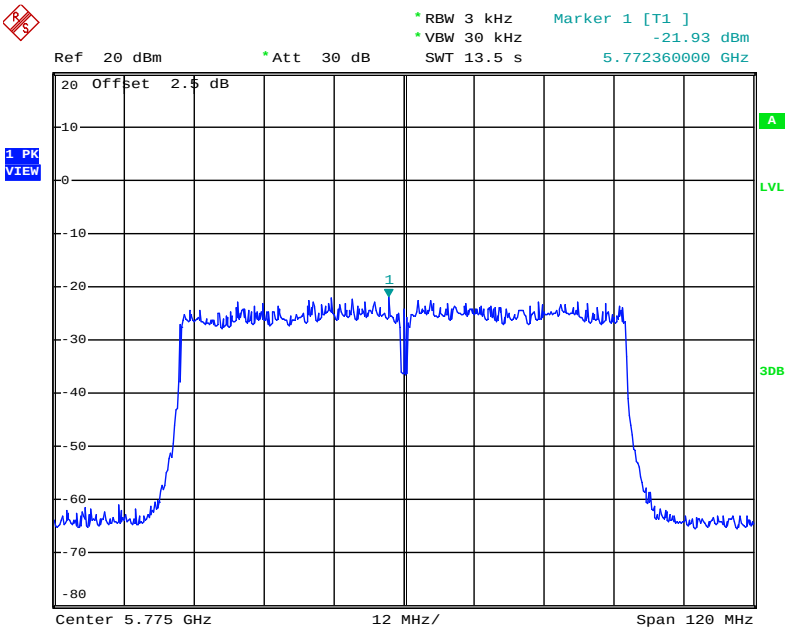


Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 / 5775 MHz



Date: 3.JUN.2014 09:02:35

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2 / 5775 MHz

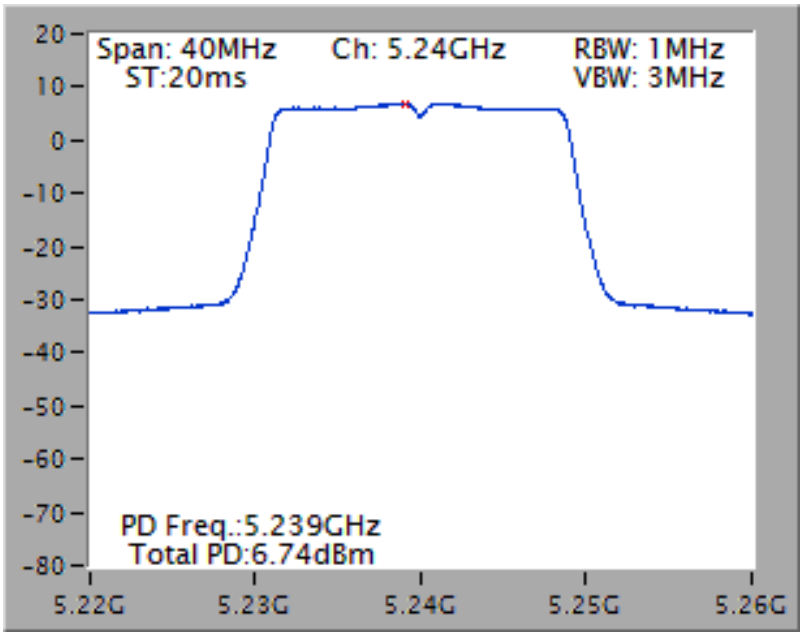


Date: 3.JUN.2014 09:01:28

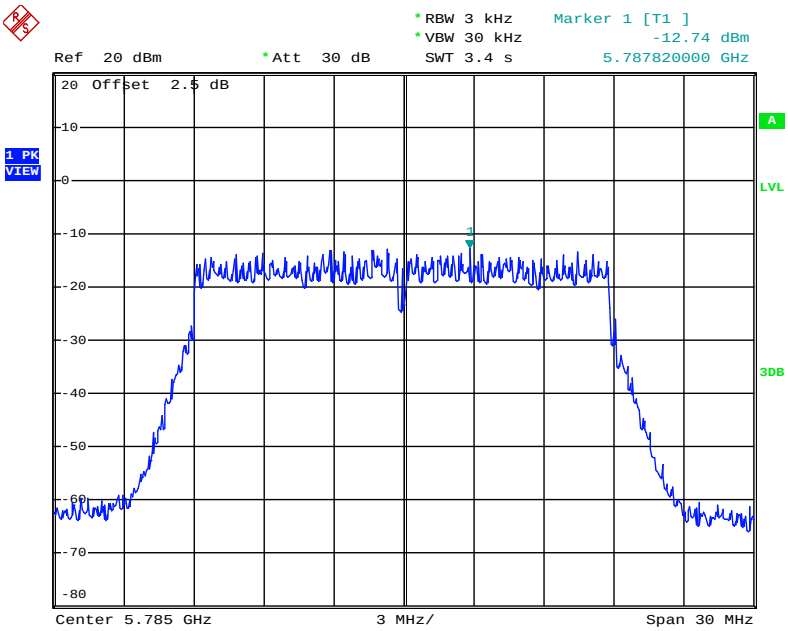
<For Beamforming Mode>

For 2TX

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 / 5240 MHz

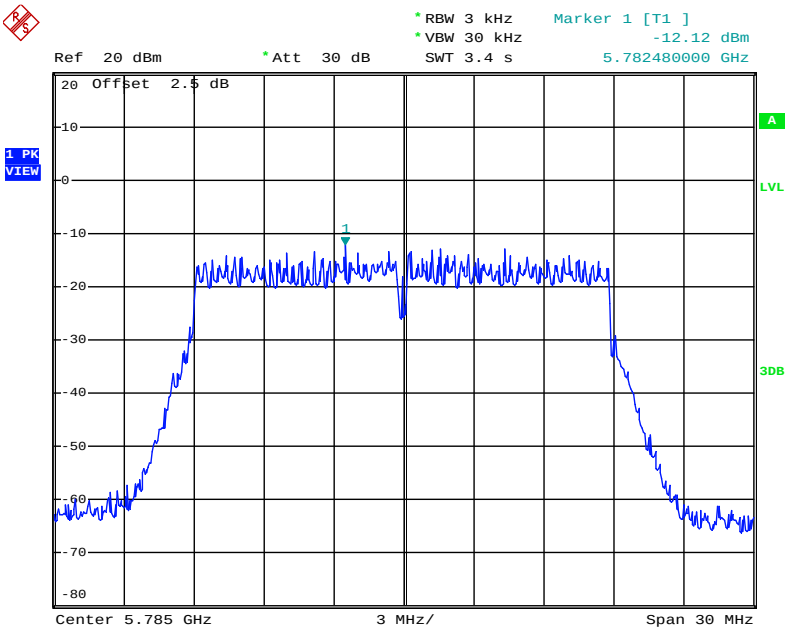


Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 / 5785 MHz

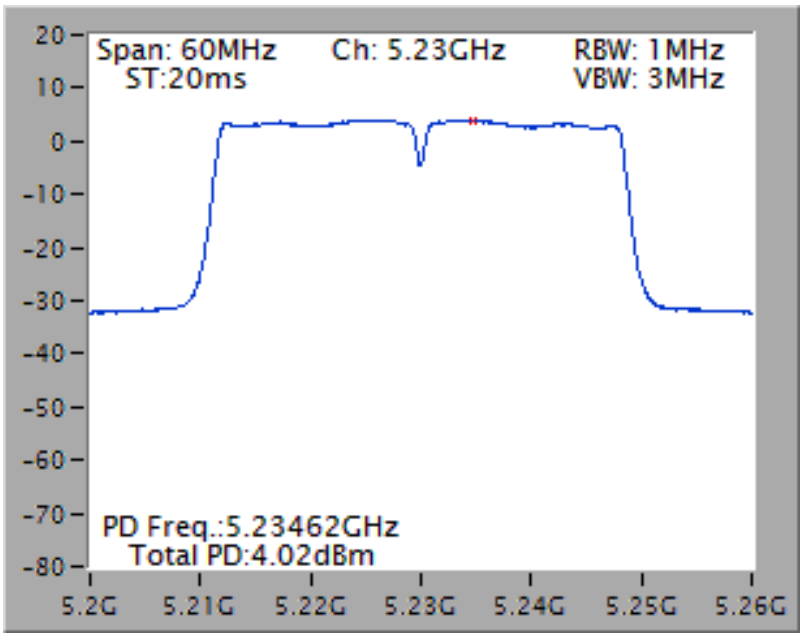


Date: 29.MAY.2014 20:39:58

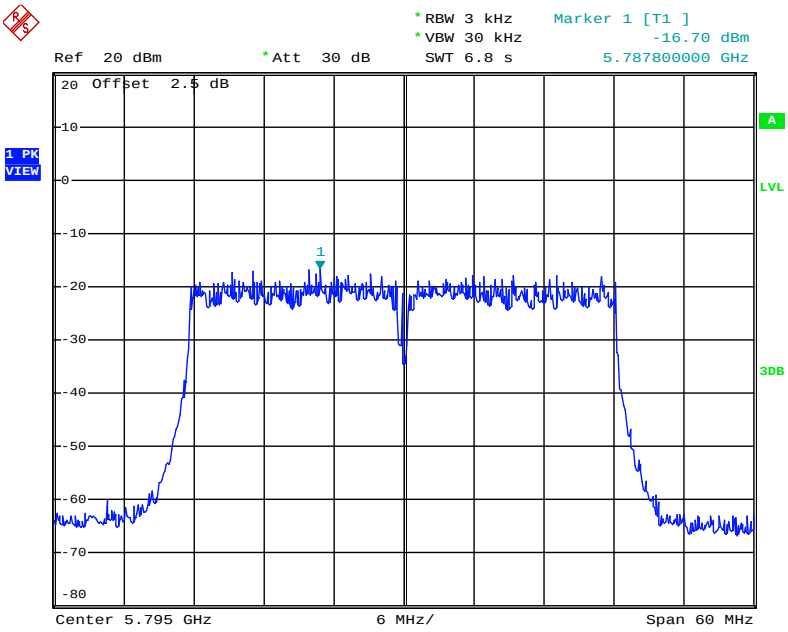
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2 / 5785 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 / 5230 MHz

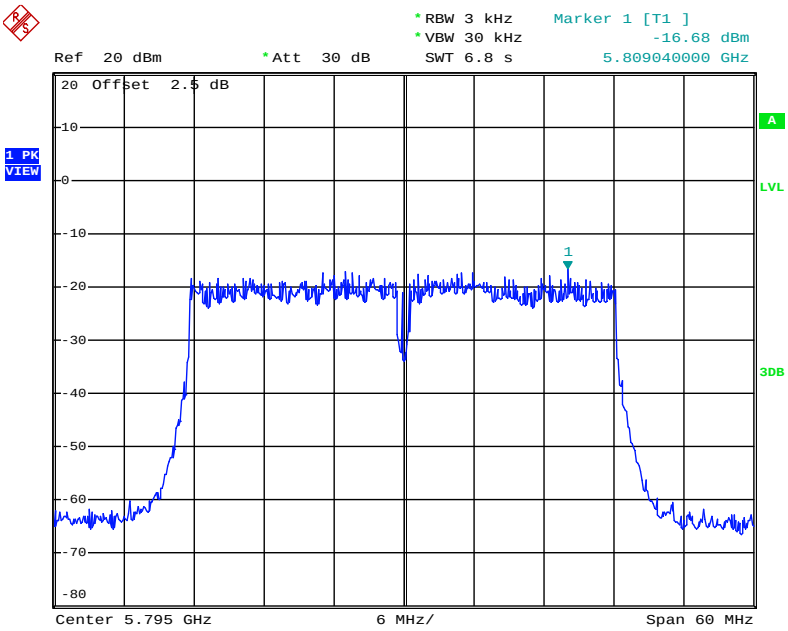


Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 / 5795 MHz



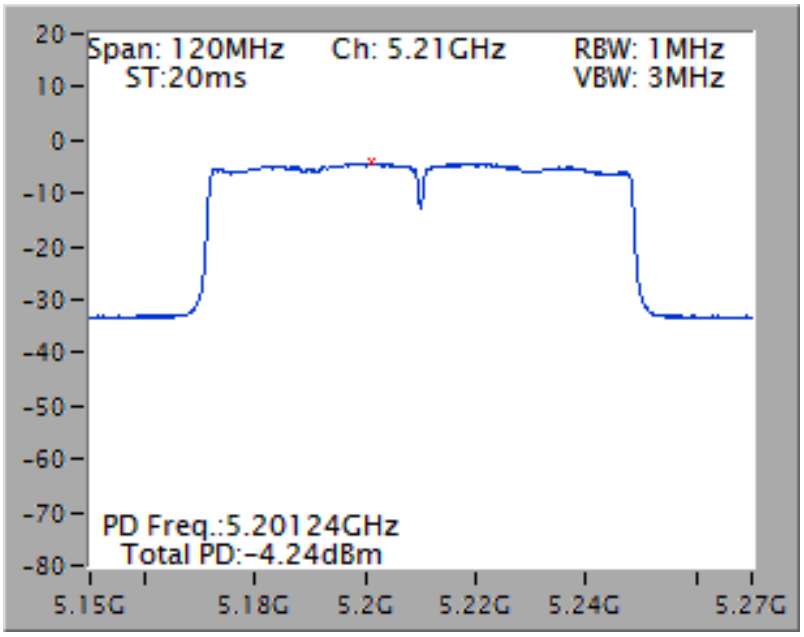
Date: 29.MAY.2014 20:50:40

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2 / 5795 MHz

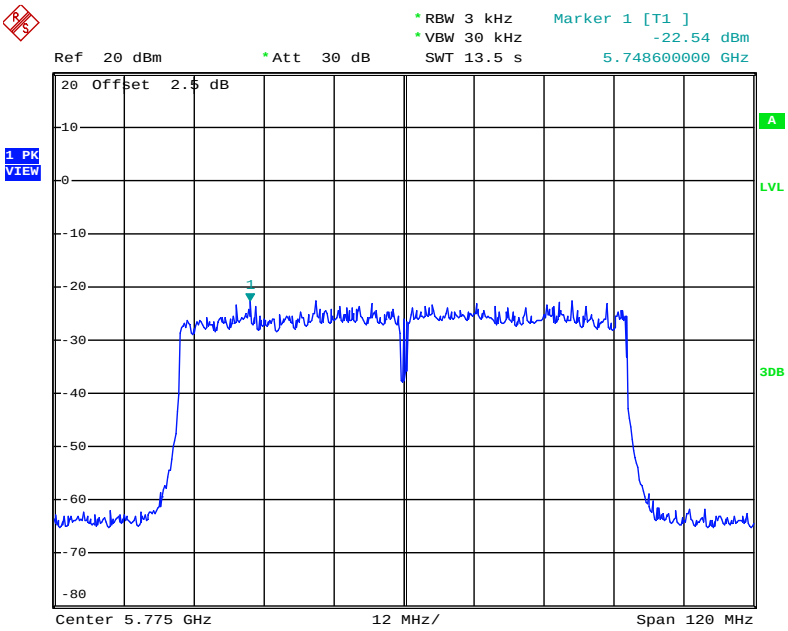


Date: 29.MAY.2014 20:51:18

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 / 5210 MHz

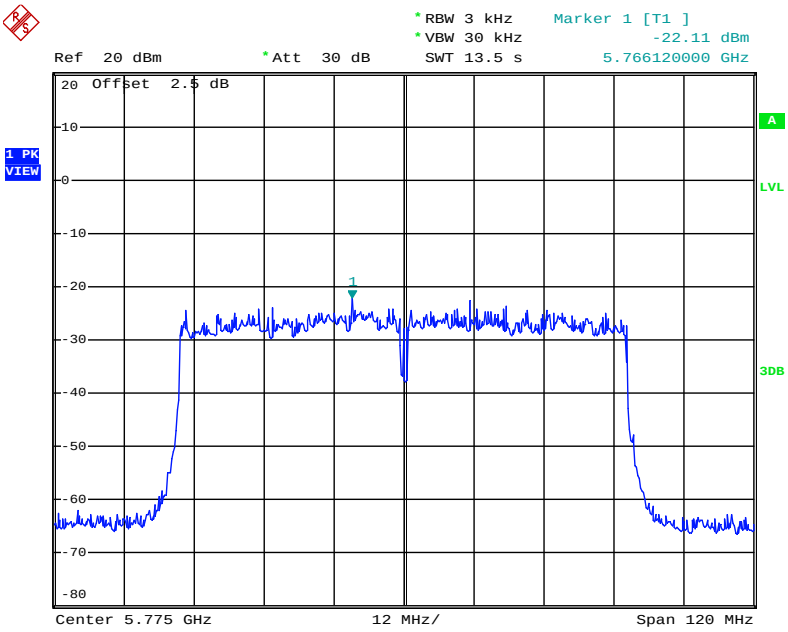


Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 / 5775 MHz



Date: 29.MAY.2014 20:54:34

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2 / 5775 MHz

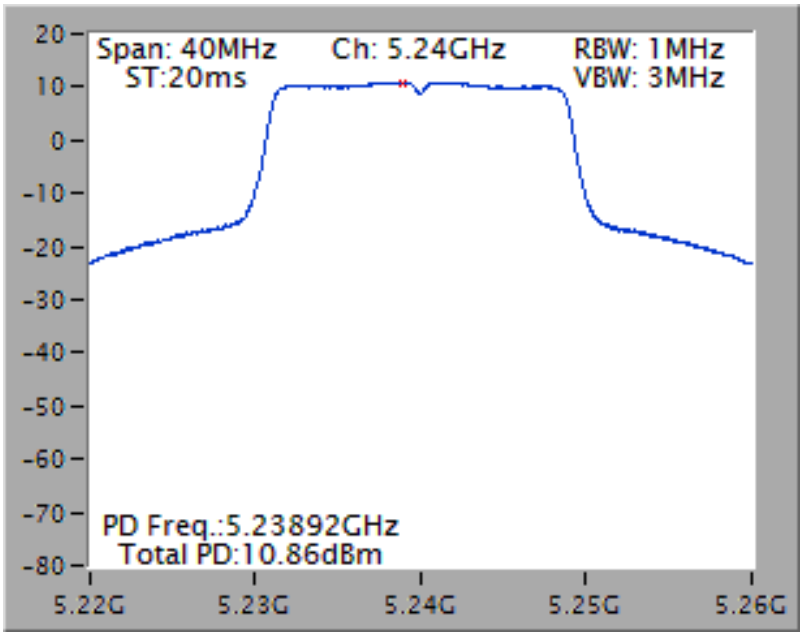


Date: 29.MAY.2014 20:54:59

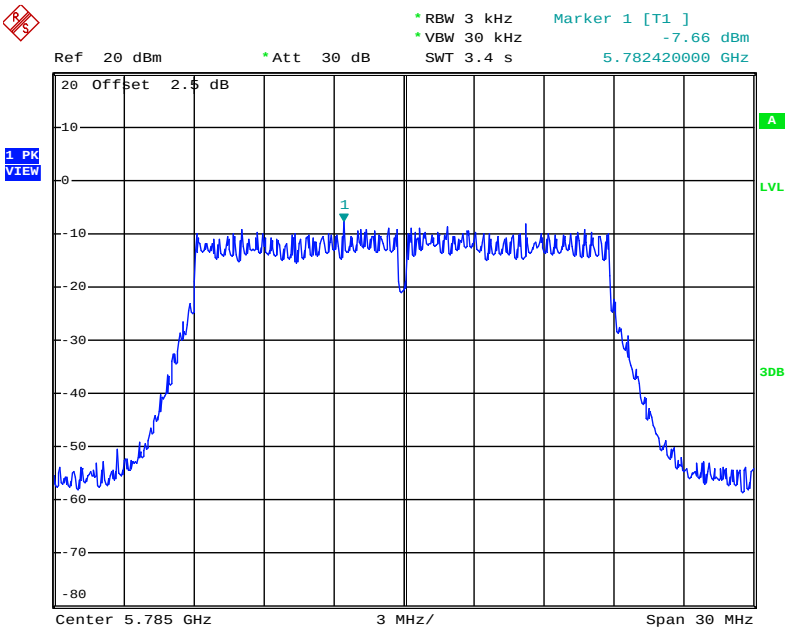
<For STBC Mode>

For 2TX

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 / 5240 MHz

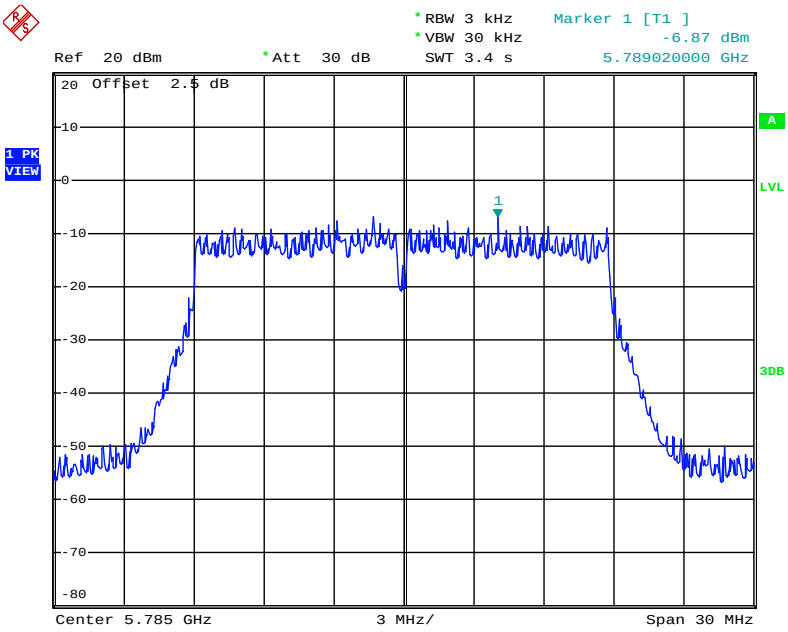


Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 / 5785 MHz



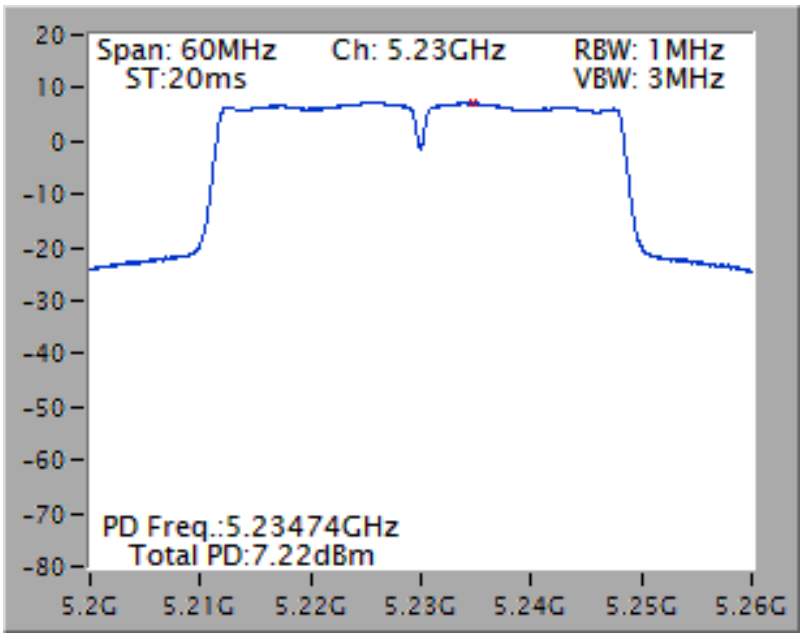
Date: 29.MAY.2014 13:56:26

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2 / 5785 MHz

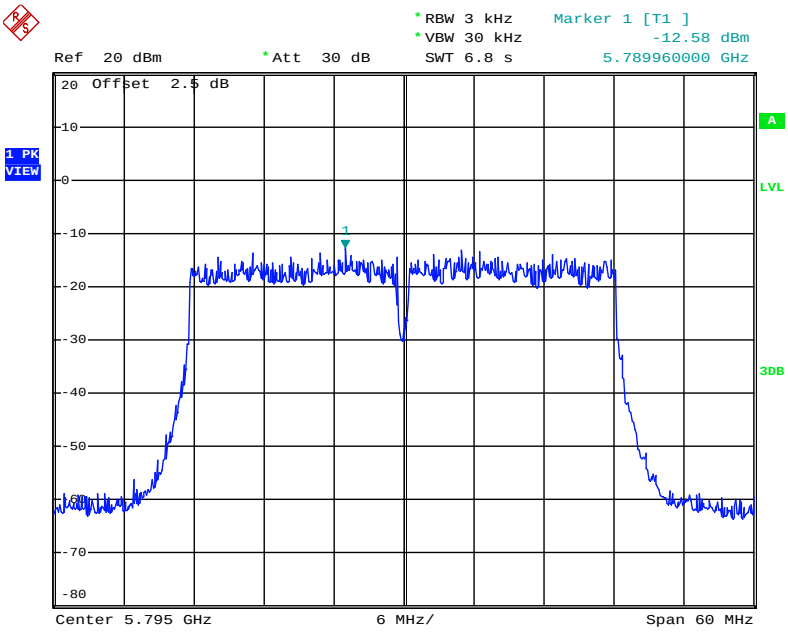


Date: 29.MAY.2014 13:57:46

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 / 5230 MHz

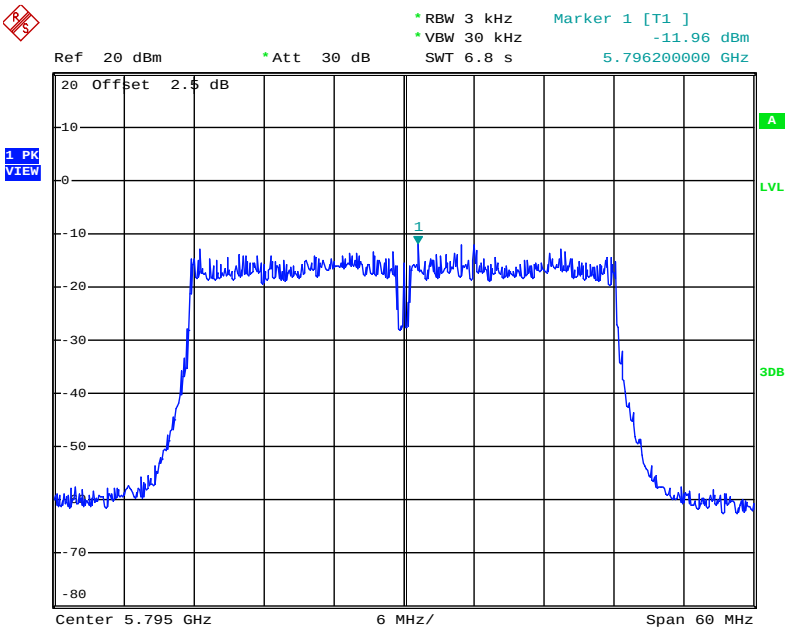


Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 / 5795 MHz



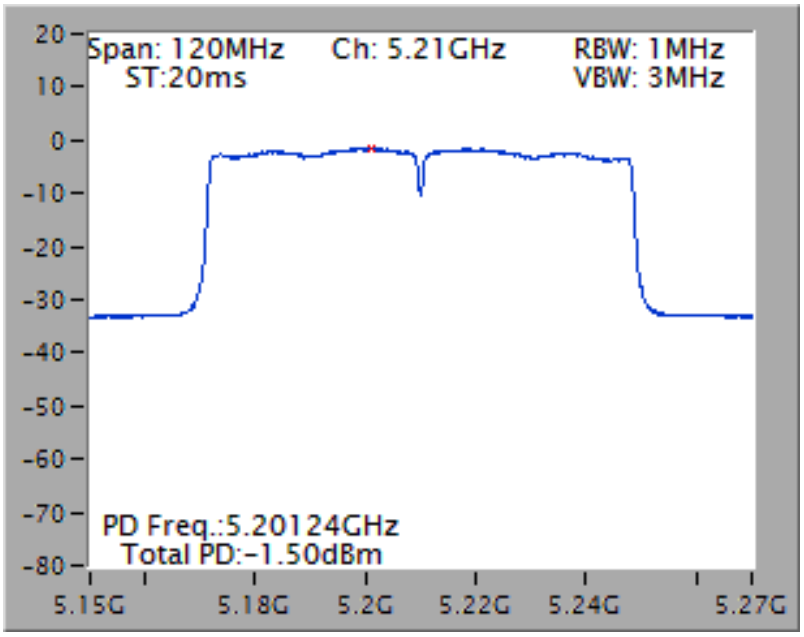
Date: 29.MAY.2014 14:04:11

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2 / 5795 MHz

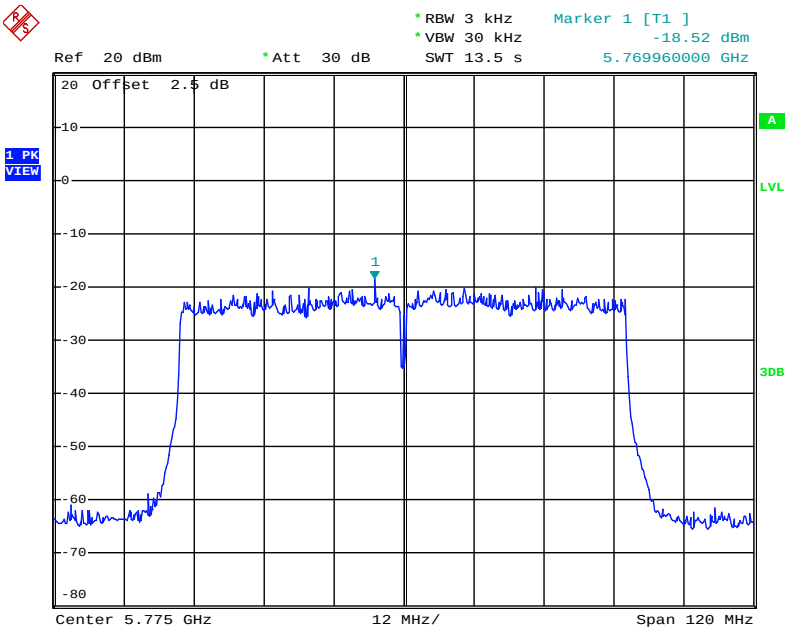


Date: 29.MAY.2014 14:03:23

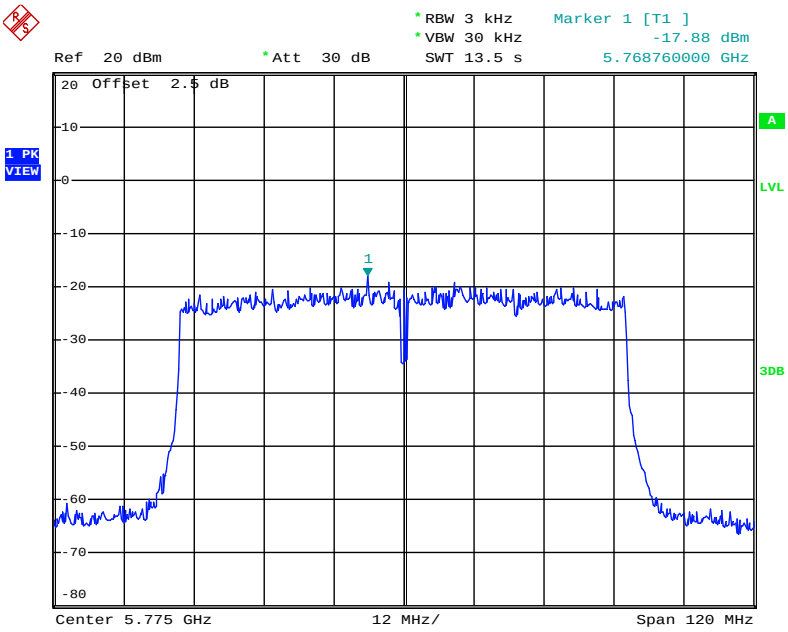
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 / 5210 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 / 5775 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2 / 5775 MHz



Date: 29.MAY.2014 14:07:12

4.6. Radiated Emissions Measurement

4.6.1. Limit

For transmitters operating in the 5.15-5.25 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 5.725-5.85 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of −17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions 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 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

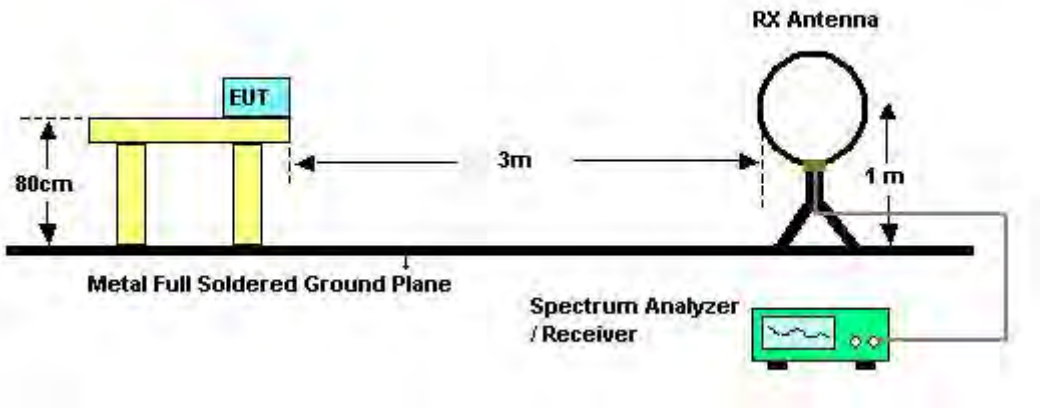
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RBW 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RBW 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RBW 120kHz for QP

4.6.3. Test Procedures

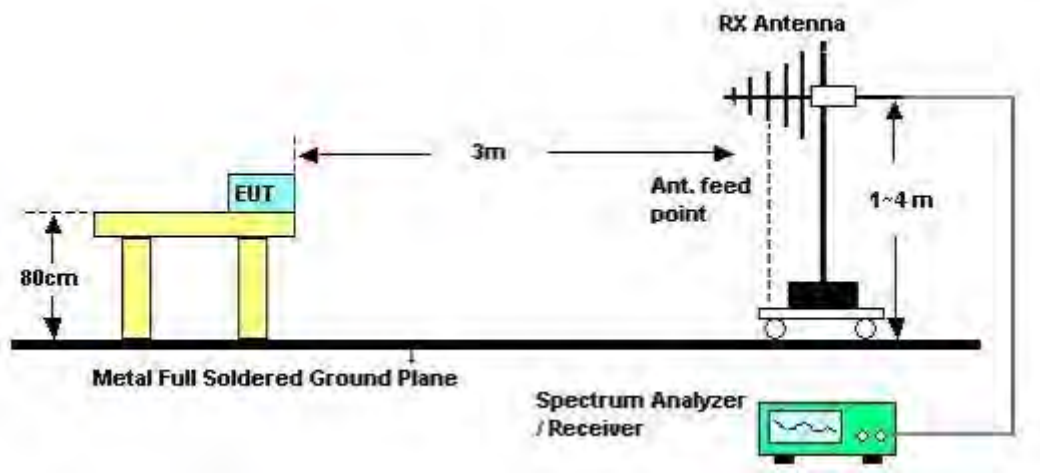
1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting 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.

4.6.4. Test Setup Layout

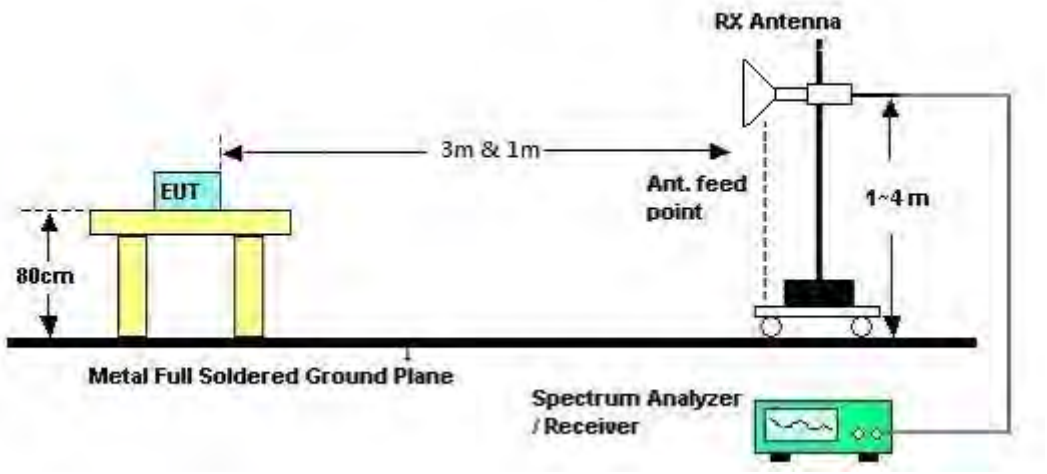
For Radiated Emissions: 9kHz ~30MHz



For Radiated Emissions: 30MHz~1GHz



For Radiated Emissions: Above 1GHz



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 STBC mode:

The EUT was programmed to be in continuously transmitting mode.

4.6.7. 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 2

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.

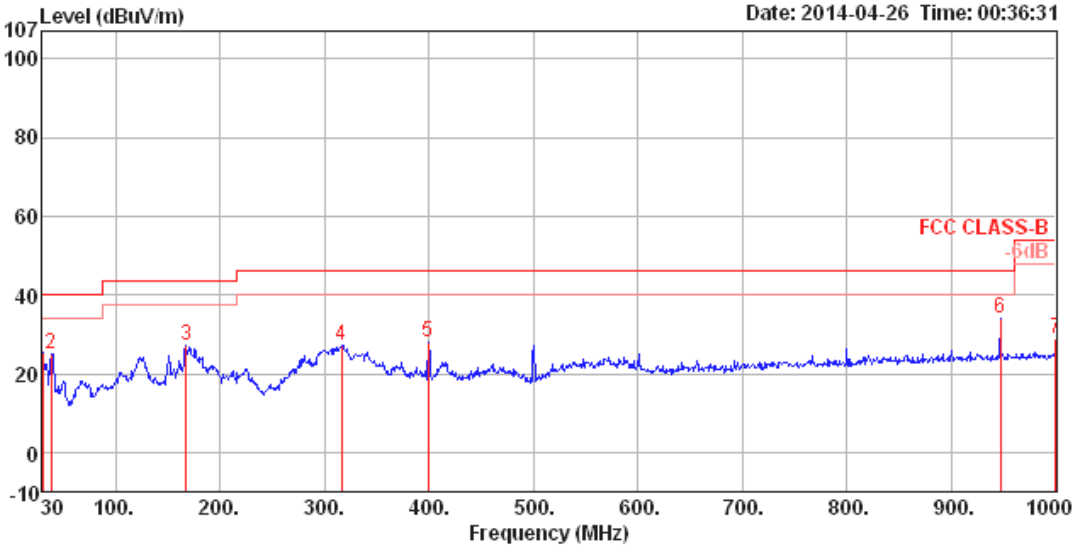
Distance extrapolation factor = 40 log (specific distance / test distance) (dB);

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

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

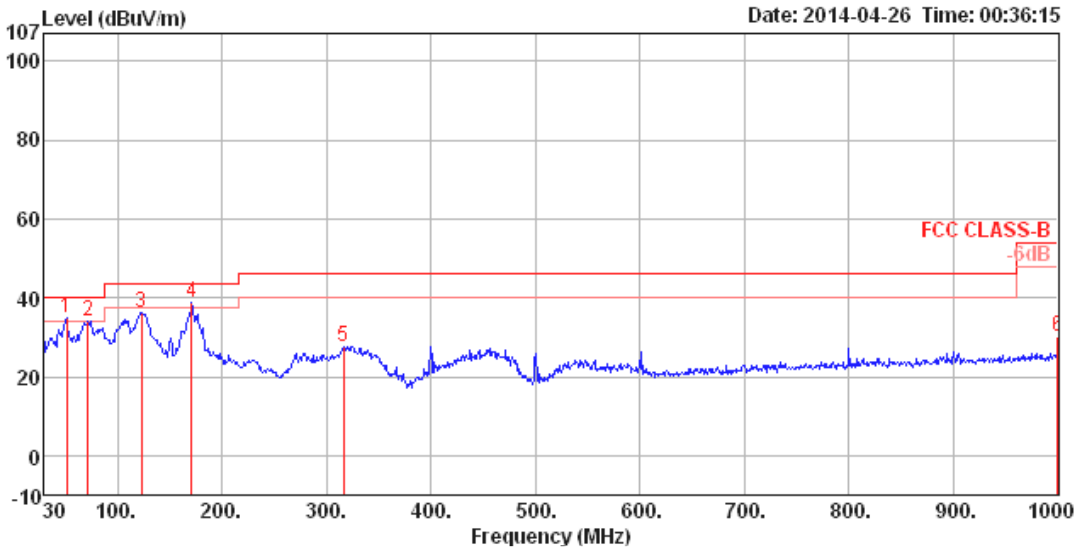
Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	Normal Link
Test Mode	Mode 2		

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	30.00	25.32	40.00	-14.68	38.51	0.64	17.98	31.81	100	138	HORIZONTAL	Peak
2	38.73	24.96	40.00	-15.04	43.01	0.73	13.10	31.88	100	56	HORIZONTAL	Peak
3	167.74	27.08	43.50	-16.42	47.79	1.57	9.25	31.53	150	195	HORIZONTAL	Peak
4	316.15	27.04	46.00	-18.96	42.76	2.17	13.51	31.40	125	191	HORIZONTAL	Peak
5	399.57	27.78	46.00	-18.22	40.89	2.49	15.86	31.46	125	184	HORIZONTAL	Peak
6	946.65	34.02	46.00	-11.98	40.18	4.07	20.89	31.12	100	214	HORIZONTAL	Peak
7	1000.00	28.76	54.00	-25.24	34.29	4.21	21.44	31.18	125	218	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	51.34	34.79	40.00	-5.21	58.58	0.85	7.15	31.79	125	188	VERTICAL	Peak
2	71.71	34.09	40.00	-5.91	59.34	1.01	5.49	31.75	125	200	VERTICAL	Peak
3	123.12	36.21	43.50	-7.29	54.79	1.31	11.67	31.56	100	262	VERTICAL	Peak
4	170.65	38.72	43.50	-4.78	59.61	1.59	9.04	31.52	125	158	VERTICAL	Peak
5	316.15	27.53	46.00	-18.47	43.25	2.17	13.51	31.40	200	182	VERTICAL	Peak
6	1000.00	30.01	54.00	-23.99	35.54	4.21	21.44	31.18	150	3	VERTICAL	Peak

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.

4.6.9. 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 36 / Chain 2 / 1TX
Test Date	May 06, 2014		

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	15540.96	39.65	54.00	-14.35	30.24	6.13	38.45	35.17	Average	100	333	HORIZONTAL
2	15544.58	52.05	74.00	-21.95	42.66	6.13	38.43	35.17	Peak	100	333	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	15539.10	52.78	74.00	-21.22	43.37	6.13	38.45	35.17	Peak	100	95	VERTICAL
2	15542.08	39.67	54.00	-14.33	30.26	6.13	38.45	35.17	Average	100	95	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 40 / Chain 2 / 1TX
Test Date	May 06, 2014		

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	15600.37	52.60	74.00	-21.40	43.30	6.13	38.36	35.19	Peak	108	272	HORIZONTAL
2	15602.76	39.45	54.00	-14.55	30.15	6.13	38.36	35.19	Average	108	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	15604.29	40.38	54.00	-13.62	31.08	6.13	38.36	35.19	Average	100	305	VERTICAL
2	15604.41	52.62	74.00	-21.38	43.32	6.13	38.36	35.19	Peak	100	305	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 48 / Chain 2 / 1TX
Test Date	May 06, 2014		

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	6987.50	52.79	74.00	-21.21	48.01	4.04	35.87	35.13	Peak	100	43	HORIZONTAL
2	6987.55	49.63	54.00	-4.37	44.85	4.04	35.87	35.13	Average	100	43	HORIZONTAL
3	15719.52	51.77	54.00	-2.23	42.65	6.14	38.19	35.21	Average	100	140	HORIZONTAL
4	15720.65	39.01	74.00	-34.99	29.89	6.14	38.19	35.21	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	6986.61	45.87	54.00	-8.13	41.09	4.04	35.87	35.13	Average	100	330	VERTICAL
2	6986.68	52.21	74.00	-21.79	47.43	4.04	35.87	35.13	Peak	100	330	VERTICAL
3	15719.15	39.20	54.00	-14.80	30.08	6.14	38.19	35.21	Average	100	238	VERTICAL
4	15720.40	52.32	74.00	-21.68	43.20	6.14	38.19	35.21	Peak	100	238	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / Chain 2 / 1TX
Test Date	May 06, 2014		

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	11490.43	39.13	54.00	-14.87	29.68	5.11	39.39	35.05	Average	100	81	HORIZONTAL
2	11490.88	51.04	74.00	-22.96	41.59	5.11	39.39	35.05	Peak	100	81	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	11489.76	51.89	74.00	-22.11	42.44	5.11	39.39	35.05	Peak	100	30	VERTICAL
2	11489.91	38.85	54.00	-15.15	29.40	5.11	39.39	35.05	Average	100	30	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / Chain 2 / 1TX
Test Date	May 06, 2014		

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	11569.63	51.70	74.00	-22.30	42.19	5.13	39.44	35.06	Peak	100	313	HORIZONTAL
2	11571.11	39.99	54.00	-14.01	30.47	5.14	39.44	35.06	Average	100	313	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	11569.26	50.39	74.00	-23.61	40.88	5.13	39.44	35.06	Peak	100	263	VERTICAL
2	11570.51	41.12	54.00	-12.88	31.60	5.14	39.44	35.06	Average	100	263	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / Chain 2 / 1TX
Test Date	May 06, 2014		

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	11646.30	52.12	74.00	-21.88	42.56	5.16	39.48	35.08	Peak	124	295	HORIZONTAL
2	11652.10	40.53	54.00	-13.47	30.96	5.16	39.49	35.08	Average	124	295	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	11646.03	50.41	74.00	-23.59	40.84	5.16	39.48	35.07	Peak	100	114	VERTICAL
2	11651.33	37.64	54.00	-16.36	28.07	5.16	39.49	35.08	Average	100	114	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / Chain 2 / 1TX
Test Date	May 06, 2014		

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	15569.11	39.06	54.00	-14.94	29.70	6.13	38.40	35.17	Average	100	42	HORIZONTAL
2	15570.36	51.66	74.00	-22.34	42.30	6.13	38.40	35.17	Peak	100	42	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	15569.26	52.12	74.00	-21.88	42.76	6.13	38.40	35.17	Peak	100	159	VERTICAL
2	15569.84	39.31	54.00	-14.69	29.95	6.13	38.40	35.17	Average	100	159	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / Chain 2 / 1TX
Test Date	May 06, 2014		

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	15690.80	39.23	54.00	-14.77	30.07	6.14	38.23	35.21	Average	100	118	HORIZONTAL
2	15690.83	52.75	74.00	-21.25	43.59	6.14	38.23	35.21	Peak	100	118	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	15690.59	52.53	74.00	-21.47	43.37	6.14	38.23	35.21	Peak	100	267	VERTICAL
2	15690.89	39.05	54.00	-14.95	29.89	6.14	38.23	35.21	Average	100	267	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / Chain 2 / 1TX
Test Date	May 06, 2014		

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	11509.89	37.93	54.00	-16.07	28.46	5.12	39.40	35.05	Average	100	49	HORIZONTAL
2	11510.13	51.06	74.00	-22.94	41.59	5.12	39.40	35.05	Peak	100	49	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	11509.10	37.71	54.00	-16.29	28.24	5.12	39.40	35.05	Average	100	283	VERTICAL
2	11510.89	50.96	74.00	-23.04	41.49	5.12	39.40	35.05	Peak	100	283	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / Chain 2 / 1TX
Test Date	May 06, 2014		

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	11589.36	38.04	54.00	-15.96	28.51	5.14	39.45	35.06	Average	100	126	HORIZONTAL
2	11589.74	50.19	74.00	-23.81	40.66	5.14	39.45	35.06	Peak	100	126	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	11590.49	50.56	74.00	-23.44	41.03	5.14	39.45	35.06	Peak	100	332	VERTICAL
2	11590.54	38.50	54.00	-15.50	28.97	5.14	39.45	35.06	Average	100	332	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Chain 2 / 1TX
Test Date	May 06, 2014		

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	15637.63	52.06	74.00	-21.94	42.80	6.14	38.31	35.19	Peak	100	105	HORIZONTAL
2	15640.00	39.40	54.00	-14.60	30.14	6.14	38.31	35.19	Average	100	105	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	15622.15	39.37	54.00	-14.63	30.10	6.13	38.33	35.19	Average	100	260	VERTICAL
2	15626.09	51.92	74.00	-22.08	42.64	6.14	38.33	35.19	Peak	100	260	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Chain 2 / 1TX
Test Date	May 06, 2014		

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	5133.22	49.97	54.00	-4.03	47.36	3.43	34.09	34.91	Average	122	297	HORIZONTAL
2	5133.29	56.24	74.00	-17.76	53.63	3.43	34.09	34.91	Peak	122	297	HORIZONTAL
3	11550.06	38.27	54.00	-15.73	28.77	5.13	39.43	35.06	Average	100	116	HORIZONTAL
4	11558.08	50.83	74.00	-23.17	41.33	5.13	39.43	35.06	Peak	100	116	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	5133.25	51.23	74.00	-22.77	48.62	3.43	34.09	34.91	Peak	101	49	VERTICAL
2	5133.28	44.70	54.00	-9.30	42.09	3.43	34.09	34.91	Average	101	49	VERTICAL
3	11551.06	50.89	74.00	-23.11	41.39	5.13	39.43	35.06	Peak	100	45	VERTICAL
4	11553.14	38.12	54.00	-15.88	28.62	5.13	39.43	35.06	Average	100	45	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°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36 / Chain 1 + Chain 2 / 2TX
Test Date	May 08, 2014		

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	15536.40	58.99	74.00	-15.01	45.66	10.77	38.15	35.59	Peak	100	305	HORIZONTAL
2	15541.28	44.53	54.00	-9.47	31.23	10.77	38.12	35.59	Average	100	305	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	15538.12	57.69	74.00	-16.31	44.39	10.77	38.12	35.59	Peak	100	305	VERTICAL
2	15540.90	44.40	54.00	-9.60	31.10	10.77	38.12	35.59	Average	100	305	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 40 / Chain 1 + Chain 2 / 2TX
Test Date	May 08, 2014		

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	15595.52	43.98	54.00	-10.02	30.74	10.78	38.04	35.58	Average	100	290	HORIZONTAL
2	15595.70	57.18	74.00	-16.82	43.94	10.78	38.04	35.58	Peak	100	290	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	15596.92	43.99	54.00	-10.01	30.75	10.78	38.04	35.58	Average	100	307	VERTICAL
2	15598.88	57.53	74.00	-16.47	44.29	10.78	38.04	35.58	Peak	100	307	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 48 / Chain 1 + Chain 2 / 2TX
Test Date	May 08, 2014		

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	15719.08	58.14	74.00	-15.86	45.06	10.79	37.85	35.56	Peak	100	267	HORIZONTAL
2	15719.64	44.90	54.00	-9.10	31.82	10.79	37.85	35.56	Average	100	267	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	15717.26	57.41	74.00	-16.59	44.33	10.79	37.85	35.56	Peak	100	251	VERTICAL
2	15717.90	44.37	54.00	-9.63	31.29	10.79	37.85	35.56	Average	100	251	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / Chain 1 + Chain 2 / 2TX
Test Date	May 15, 2014		

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	11489.42	50.57	74.00	-23.43	41.12	5.11	39.39	35.05	Peak	100	119	HORIZONTAL
2	11489.87	38.17	54.00	-15.83	28.72	5.11	39.39	35.05	Average	100	119	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	11490.42	50.82	74.00	-23.18	41.37	5.11	39.39	35.05	Peak	100	169	VERTICAL
2	11490.98	37.82	54.00	-16.18	28.37	5.11	39.39	35.05	Average	100	169	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / Chain 1 + Chain 2 / 2TX
Test Date	May 15, 2014		

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	11570.24	50.77	74.00	-23.23	41.25	5.14	39.44	35.06	Peak	100	146	HORIZONTAL
2	11570.73	38.19	54.00	-15.81	28.67	5.14	39.44	35.06	Average	100	146	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	11570.37	51.65	74.00	-22.35	42.13	5.14	39.44	35.06	Peak	100	219	VERTICAL
2	11570.98	38.74	54.00	-15.26	29.22	5.14	39.44	35.06	Average	100	219	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / Chain 1 + Chain 2 / 2TX
Test Date	May 15, 2014		

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	11649.78	51.52	74.00	-22.48	41.96	5.16	39.48	35.08	Peak	100	272	HORIZONTAL
2	11650.33	38.38	54.00	-15.62	28.82	5.16	39.48	35.08	Average	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	11650.06	39.10	54.00	-14.90	29.54	5.16	39.48	35.08	Average	100	171	VERTICAL
2	11650.70	51.58	74.00	-22.42	42.01	5.16	39.49	35.08	Peak	100	171	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / Chain 1 + Chain 2 / 2TX
Test Date	May 08, 2014		

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	15567.92	56.86	74.00	-17.14	43.57	10.78	38.09	35.58	Peak	100	280	HORIZONTAL
2	15572.48	44.05	54.00	-9.95	30.78	10.78	38.07	35.58	Average	100	280	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	15571.76	57.76	74.00	-16.24	44.47	10.78	38.09	35.58	Peak	100	226	VERTICAL
2	15573.40	44.25	54.00	-9.75	30.98	10.78	38.07	35.58	Average	100	226	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / Chain 1 + Chain 2 / 2TX
Test Date	May 08, 2014		

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	15691.48	56.42	74.00	-17.58	43.31	10.79	37.88	35.56	Peak	100	258	HORIZONTAL
2	15691.54	43.64	54.00	-10.36	30.53	10.79	37.88	35.56	Average	100	258	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	15686.94	56.26	74.00	-17.74	43.12	10.79	37.91	35.56	Peak	100	216	VERTICAL
2	15688.18	43.81	54.00	-10.19	30.67	10.79	37.91	35.56	Average	100	216	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / Chain 1 + Chain 2 / 2TX
Test Date	May 15, 2014		

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	11509.18	37.65	54.00	-16.35	28.18	5.12	39.40	35.05	Average	100	157	HORIZONTAL
2	11509.67	50.49	74.00	-23.51	41.02	5.12	39.40	35.05	Peak	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	11509.57	50.98	74.00	-23.02	41.51	5.12	39.40	35.05	Peak	100	278	VERTICAL
2	11509.90	38.08	54.00	-15.92	28.61	5.12	39.40	35.05	Average	100	278	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / Chain 1 + Chain 2 / 2TX
Test Date	May 15, 2014		

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	11589.77	38.76	54.00	-15.24	29.23	5.14	39.45	35.06	Average	100	263	HORIZONTAL
2	11590.80	51.79	74.00	-22.21	42.26	5.14	39.45	35.06	Peak	100	263	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	11589.03	50.90	74.00	-23.10	41.37	5.14	39.45	35.06	Peak	100	311	VERTICAL
2	11589.28	38.23	54.00	-15.77	28.70	5.14	39.45	35.06	Average	100	311	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Chain 1 + Chain 2 / 2TX
Test Date	May 08, 2014		

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	15630.62	43.93	54.00	-10.07	30.73	10.78	37.99	35.57	Average	100	172	HORIZONTAL
2	15632.84	57.14	74.00	-16.86	43.94	10.78	37.99	35.57	Peak	100	172	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	15627.38	56.86	74.00	-17.14	43.66	10.78	37.99	35.57	Peak	100	210	VERTICAL
2	15633.94	44.01	54.00	-9.99	30.81	10.78	37.99	35.57	Average	100	210	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Chain 1 + Chain 2 / 2TX
Test Date	May 15, 2014		

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	5133.24	52.75	74.00	-21.25	50.14	3.43	34.09	34.91	Peak	100	51	HORIZONTAL
2	5133.32	43.15	54.00	-10.85	40.54	3.43	34.09	34.91	Average	100	51	HORIZONTAL
3	11550.32	50.38	74.00	-23.62	40.88	5.13	39.43	35.06	Peak	100	283	HORIZONTAL
4	11551.77	37.69	54.00	-16.31	28.19	5.13	39.43	35.06	Average	100	283	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	5133.19	48.93	74.00	-25.07	46.32	3.43	34.09	34.91	Peak	101	52	VERTICAL
2	5133.29	39.87	54.00	-14.13	37.26	3.43	34.09	34.91	Average	101	52	VERTICAL
3	11550.57	50.41	74.00	-23.59	40.91	5.13	39.43	35.06	Peak	101	199	VERTICAL
4	11550.94	37.41	54.00	-16.59	27.91	5.13	39.43	35.06	Average	101	199	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.

4.7. Band Edge Emissions Measurement

4.7.1. Limit

For transmitters operating in the 5.15-5.25 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 5.725-5.85 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of −17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions 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

4.7.2. 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

4.7.3. Test Procedures

1. The test procedure is the same as section 4.6.3, only the frequency range investigated is limited to 100MHz around band edges.

4.7.4. Test Setup Layout

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

4.7.5. Test Deviation

There is no deviation with the original standard.

4.7.6. 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.

4.7.7. Test Result of Band Edge and Fundamental Emissions

<For Non-Beamforming Mode>

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11n MCS0 HT20 CH 36, 40, 48 / Chain 2 / 1TX
Test Date	May 06, 2014		

Channel 36

	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	5148.72	72.13	74.00	-1.87	69.50	3.43	34.11	34.91	Peak	109	290	HORIZONTAL
2	5150.00	52.91	54.00	-1.09	50.28	3.43	34.11	34.91	Average	109	290	HORIZONTAL
3	5179.00	104.18			101.49	3.44	34.16	34.91	Average	109	290	HORIZONTAL
4	5179.63	115.09			112.40	3.44	34.16	34.91	Peak	109	290	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

Channel 40

	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	5121.15	52.89	54.00	-1.11	50.31	3.43	34.06	34.91	Average	109	316	HORIZONTAL
2	5148.08	66.96	74.00	-7.04	64.33	3.43	34.11	34.91	Peak	109	316	HORIZONTAL
3	5201.50	108.62			105.90	3.45	34.18	34.91	Average	109	316	HORIZONTAL
4	5202.25	118.38			115.66	3.45	34.18	34.91	Peak	109	316	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5200 MHz.

Channel 48

	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	5125.96	63.44	74.00	-10.56	60.83	3.43	34.09	34.91	Peak	130	295	HORIZONTAL
2	5127.89	51.92	54.00	-2.08	49.31	3.43	34.09	34.91	Average	130	295	HORIZONTAL
3	5238.50	120.51			117.73	3.46	34.23	34.91	Peak	130	295	HORIZONTAL
4	5241.13	109.97			107.19	3.46	34.23	34.91	Average	130	295	HORIZONTAL
5	5357.69	65.59	74.00	-8.41	62.62	3.49	34.39	34.91	Peak	130	295	HORIZONTAL
6	5361.54	52.68	54.00	-1.32	49.69	3.49	34.41	34.91	Average	130	295	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5240 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11n MCS0 HT20 CH 149, 157, 165 / Chain 2 / 1TX
Test Date	May 06, 2014		

Channel 149

	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	5714.04	66.80	68.20	-1.40	63.46	3.60	34.68	34.94	Peak	106	302	HORIZONTAL
2	5718.85	71.55	78.20	-6.65	68.20	3.60	34.69	34.94	Peak	106	302	HORIZONTAL
3	5743.50	101.83			98.46	3.61	34.70	34.94	Average	106	302	HORIZONTAL
4	5745.00	113.03			109.66	3.61	34.70	34.94	Peak	106	302	HORIZONTAL
5	5857.21	59.48	78.20	-18.72	56.05	3.64	34.74	34.95	Peak	106	302	HORIZONTAL
6	5862.89	61.89	68.20	-6.31	58.45	3.65	34.74	34.95	Peak	106	302	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5745 MHz.

Channel 157

	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	5703.37	66.96	68.20	-1.24	63.63	3.59	34.68	34.94	Peak	127	302	HORIZONTAL
2	5725.00	62.39	78.20	-15.81	59.04	3.60	34.69	34.94	Peak	127	302	HORIZONTAL
3	5783.88	106.08			102.68	3.63	34.71	34.94	Average	127	302	HORIZONTAL
4	5787.25	117.27			113.86	3.63	34.72	34.94	Peak	127	302	HORIZONTAL
5	5857.21	64.12	78.20	-14.08	60.69	3.64	34.74	34.95	Peak	127	302	HORIZONTAL
6	5863.94	64.38	68.20	-3.82	60.94	3.65	34.74	34.95	Peak	127	302	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5785 MHz.

Channel 165

	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	5703.94	60.00	68.20	-8.20	56.67	3.59	34.68	34.94	Peak	125	302	HORIZONTAL
2	5722.12	57.08	78.20	-21.12	53.73	3.60	34.69	34.94	Peak	125	302	HORIZONTAL
3	5826.88	103.69			100.28	3.63	34.73	34.95	Average	125	302	HORIZONTAL
4	5828.75	115.31			111.90	3.63	34.73	34.95	Peak	125	302	HORIZONTAL
5	5851.44	72.54	78.20	-5.66	69.11	3.64	34.74	34.95	Peak	125	302	HORIZONTAL
6	5861.44	67.03	68.20	-1.17	63.59	3.65	34.74	34.95	Peak	125	302	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5825 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11n MCS0 HT40 CH 38, 46 / Chain 2 / 1TX
Test Date	May 06, 2014		

Channel 38

	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	5146.80	72.49	74.00	-1.51	69.86	3.43	34.11	34.91	Peak	122	319	HORIZONTAL
2	5150.00	52.53	54.00	-1.47	49.90	3.43	34.11	34.91	Average	122	319	HORIZONTAL
3	5185.25	98.94			96.25	3.44	34.16	34.91	Average	122	319	HORIZONTAL
4	5185.75	111.43			108.74	3.44	34.16	34.91	Peak	122	319	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5190 MHz.

Channel 46

	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	5148.40	52.62	54.00	-1.38	49.99	3.43	34.11	34.91	Average	109	290	HORIZONTAL
2	5150.00	66.94	74.00	-7.06	64.31	3.43	34.11	34.91	Peak	109	290	HORIZONTAL
3	5226.00	115.23			112.45	3.46	34.23	34.91	Peak	109	290	HORIZONTAL
4	5226.25	103.45			100.67	3.46	34.23	34.91	Average	109	290	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5230 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11n MCS0 HT40 CH 151, 159 / Chain 2 / 1TX
Test Date	May 06, 2014		

Channel 151

	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	5714.68	66.95	68.20	-1.25	63.61	3.60	34.68	34.94	Peak	108	319	HORIZONTAL
2	5723.72	68.18	78.20	-10.02	64.83	3.60	34.69	34.94	Peak	108	319	HORIZONTAL
3	5759.50	96.85			93.47	3.62	34.70	34.94	Average	108	319	HORIZONTAL
4	5760.00	109.15			105.77	3.62	34.70	34.94	Peak	108	319	HORIZONTAL
5	5851.92	58.57	78.20	-19.63	55.14	3.64	34.74	34.95	Peak	108	319	HORIZONTAL
6	5863.37	59.77	68.20	-8.43	56.33	3.65	34.74	34.95	Peak	108	319	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5755 MHz.

Channel 159

	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	5711.64	64.34	68.20	-3.86	61.00	3.60	34.68	34.94	Peak	112	73	HORIZONTAL
2	5719.71	69.85	78.20	-8.35	66.50	3.60	34.69	34.94	Peak	112	73	HORIZONTAL
3	5789.38	109.96			106.55	3.63	34.72	34.94	Peak	112	73	HORIZONTAL
4	5789.75	98.45			95.04	3.63	34.72	34.94	Average	112	73	HORIZONTAL
5	5855.29	74.67	78.20	-3.53	71.24	3.64	34.74	34.95	Peak	112	73	HORIZONTAL
6	5864.33	67.06	68.20	-1.14	63.62	3.65	34.74	34.95	Peak	112	73	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5795 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Chain 2 / 1TX
Test Date	May 06, 2014		

Channel 36

	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	5149.52	70.23	74.00	-3.77	67.60	3.43	34.11	34.91	Peak	111	288	HORIZONTAL
2	5150.00	52.76	54.00	-1.24	50.13	3.43	34.11	34.91	Average	111	288	HORIZONTAL
3	5178.13	115.02			112.33	3.44	34.16	34.91	Peak	111	288	HORIZONTAL
4	5178.50	104.15			101.46	3.44	34.16	34.91	Average	111	288	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

Channel 40

	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	5121.15	52.60	54.00	-1.40	50.02	3.43	34.06	34.91	Average	107	308	HORIZONTAL
2	5149.04	64.91	74.00	-9.09	62.28	3.43	34.11	34.91	Peak	107	308	HORIZONTAL
3	5198.13	118.49			115.77	3.45	34.18	34.91	Peak	107	308	HORIZONTAL
4	5198.50	107.33			104.61	3.45	34.18	34.91	Average	107	308	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5200 MHz.

Channel 48

	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	5120.67	64.72	74.00	-9.28	62.14	3.43	34.06	34.91	Peak	184	309	HORIZONTAL
2	5127.40	52.63	54.00	-1.37	50.02	3.43	34.09	34.91	Average	184	309	HORIZONTAL
3	5241.13	109.11			106.33	3.46	34.23	34.91	Average	184	309	HORIZONTAL
4	5244.50	120.53			117.73	3.46	34.25	34.91	Peak	184	309	HORIZONTAL
5	5357.21	51.65	54.00	-2.35	48.68	3.49	34.39	34.91	Average	184	309	HORIZONTAL
6	5358.65	62.78	74.00	-11.22	59.81	3.49	34.39	34.91	Peak	184	309	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5240 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Chain 2 / 1TX
Test Date	May 06, 2014		

Channel 149

	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	5713.08	66.90	68.20	-1.30	63.56	3.60	34.68	34.94	Peak	189	310	HORIZONTAL
2	5724.04	69.71	78.20	-8.49	66.36	3.60	34.69	34.94	Peak	189	310	HORIZONTAL
3	5742.75	101.49			98.12	3.61	34.70	34.94	Average	189	310	HORIZONTAL
4	5747.63	113.34			109.97	3.61	34.70	34.94	Peak	189	310	HORIZONTAL
5	5859.04	62.21	78.20	-15.99	58.77	3.65	34.74	34.95	Peak	189	310	HORIZONTAL
6	5861.44	62.25	68.20	-5.95	58.81	3.65	34.74	34.95	Peak	189	310	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5745 MHz.

Channel 157

	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	5699.52	66.89	68.20	-1.31	63.56	3.59	34.68	34.94	Peak	127	299	HORIZONTAL
2	5722.60	63.31	78.20	-14.89	59.96	3.60	34.69	34.94	Peak	127	299	HORIZONTAL
3	5783.50	106.63			103.23	3.63	34.71	34.94	Average	127	299	HORIZONTAL
4	5790.63	118.15			114.74	3.63	34.72	34.94	Peak	127	299	HORIZONTAL
5	5852.89	63.99	78.20	-14.21	60.56	3.64	34.74	34.95	Peak	127	299	HORIZONTAL
6	5861.44	66.46	68.20	-1.74	63.02	3.65	34.74	34.95	Peak	127	299	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5785 MHz.

Channel 165

	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	5707.31	59.35	68.20	-8.85	56.01	3.60	34.68	34.94	Peak	123	300	HORIZONTAL
2	5721.15	56.90	78.20	-21.30	53.55	3.60	34.69	34.94	Peak	123	300	HORIZONTAL
3	5827.25	103.18			99.77	3.63	34.73	34.95	Average	123	300	HORIZONTAL
4	5827.25	114.87			111.46	3.63	34.73	34.95	Peak	123	300	HORIZONTAL
5	5850.00	74.55	78.20	-3.65	71.12	3.64	34.74	34.95	Peak	123	300	HORIZONTAL
6	5860.48	66.99	68.20	-1.21	63.55	3.65	34.74	34.95	Peak	123	300	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5825 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Chain 2 / 1TX
Test Date	May 06, 2014		

Channel 38

	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	5147.44	72.71	74.00	-1.29	70.08	3.43	34.11	34.91	Peak	193	306	HORIZONTAL
2	5150.00	52.96	54.00	-1.04	50.33	3.43	34.11	34.91	Average	193	306	HORIZONTAL
3	5194.75	98.75			96.04	3.44	34.18	34.91	Average	193	306	HORIZONTAL
4	5195.25	111.50			108.78	3.45	34.18	34.91	Peak	193	306	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5190 MHz.

Channel 46

	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	5146.15	68.40	74.00	-5.60	65.77	3.43	34.11	34.91	Peak	199	311	HORIZONTAL
2	5148.72	52.87	54.00	-1.13	50.24	3.43	34.11	34.91	Average	199	311	HORIZONTAL
3	5224.55	116.53			113.75	3.46	34.23	34.91	Peak	199	311	HORIZONTAL
4	5225.00	104.16			101.38	3.46	34.23	34.91	Average	199	311	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5230 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Chain 2 / 1TX
Test Date	May 06, 2014		

Channel 151

	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	5714.52	66.88	68.20	-1.32	63.54	3.60	34.68	34.94	Peak	186	315	HORIZONTAL
2	5720.19	69.28	78.20	-8.92	65.93	3.60	34.69	34.94	Peak	186	315	HORIZONTAL
3	5750.19	96.78			93.41	3.61	34.70	34.94	Average	186	315	HORIZONTAL
4	5767.98	109.03			105.65	3.62	34.70	34.94	Peak	186	315	HORIZONTAL
5	5850.48	60.26	78.20	-17.94	56.83	3.64	34.74	34.95	Peak	186	315	HORIZONTAL
6	5861.44	59.96	68.20	-8.24	56.52	3.65	34.74	34.95	Peak	186	315	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5755 MHz.

Channel 159

	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	5700.58	64.17	68.20	-4.03	60.84	3.59	34.68	34.94	Peak	115	303	HORIZONTAL
2	5724.52	64.70	78.20	-13.50	61.35	3.60	34.69	34.94	Peak	115	303	HORIZONTAL
3	5788.75	113.61			110.20	3.63	34.72	34.94	Peak	115	303	HORIZONTAL
4	5799.81	101.01			97.60	3.63	34.72	34.94	Average	115	303	HORIZONTAL
5	5850.48	71.26	78.20	-6.94	67.83	3.64	34.74	34.95	Peak	115	303	HORIZONTAL
6	5860.96	67.09	68.20	-1.11	63.65	3.65	34.74	34.95	Peak	115	303	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5795 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 155 / Chain 2 / 1TX
Test Date	May 06, 2014		

Channel 42

	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	5147.60	72.61	74.00	-1.39	69.98	3.43	34.11	34.91	Peak	122	287	HORIZONTAL
2	5150.00	52.84	54.00	-1.16	50.21	3.43	34.11	34.91	Average	122	287	HORIZONTAL
3	5217.21	109.92			107.18	3.45	34.20	34.91	Peak	122	287	HORIZONTAL
4	5218.81	95.82			93.08	3.45	34.20	34.91	Average	122	287	HORIZONTAL
5	5350.80	57.04	74.00	-16.96	54.07	3.49	34.39	34.91	Peak	122	287	HORIZONTAL
6	5353.21	44.15	54.00	-9.85	41.18	3.49	34.39	34.91	Average	122	287	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5210 MHz.

Channel 155

	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	5713.40	66.78	68.20	-1.42	63.44	3.60	34.68	34.94	Peak	125	310	HORIZONTAL
2	5721.80	70.26	78.20	-7.94	66.91	3.60	34.69	34.94	Peak	125	310	HORIZONTAL
3	5778.21	107.74			104.35	3.62	34.71	34.94	Peak	125	310	HORIZONTAL
4	5801.44	94.04			90.63	3.63	34.72	34.94	Average	125	310	HORIZONTAL
5	5853.21	69.54	78.20	-8.66	66.11	3.64	34.74	34.95	Peak	125	310	HORIZONTAL
6	5868.01	67.05	68.20	-1.15	63.61	3.65	34.74	34.95	Peak	125	310	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5775 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11n MCS0 HT20 CH 36, 40, 48 / Chain 1 + Chain 2 / 2TX
Test Date	May 07, 2014		

Channel 36

	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	5149.36	52.56	54.00	-1.44	49.93	3.43	34.11	34.91	Average	195	51	HORIZONTAL
2	5149.36	69.41	74.00	-4.59	66.78	3.43	34.11	34.91	Peak	195	51	HORIZONTAL
3	5171.67	106.10			103.44	3.44	34.13	34.91	Average	195	51	HORIZONTAL
4	5171.67	117.16			114.50	3.44	34.13	34.91	Peak	195	51	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

Channel 40

	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	5116.35	64.74	74.00	-9.26	62.16	3.42	34.06	34.90	Peak	125	67	HORIZONTAL
2	5118.27	52.65	54.00	-1.35	50.07	3.43	34.06	34.91	Average	125	67	HORIZONTAL
3	5200.96	107.61			104.89	3.45	34.18	34.91	Average	125	67	HORIZONTAL
4	5206.25	118.01			115.29	3.45	34.18	34.91	Peak	125	67	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5200 MHz.

Channel 48

	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	5125.96	65.17	74.00	-8.83	62.56	3.43	34.09	34.91	Peak	192	57	HORIZONTAL
2	5126.44	52.83	54.00	-1.17	50.22	3.43	34.09	34.91	Average	192	57	HORIZONTAL
3	5238.56	118.65			115.87	3.46	34.23	34.91	Peak	192	57	HORIZONTAL
4	5239.04	107.77			104.99	3.46	34.23	34.91	Average	192	57	HORIZONTAL
5	5357.21	62.87	74.00	-11.13	59.90	3.49	34.39	34.91	Peak	192	57	HORIZONTAL
6	5359.14	51.73	54.00	-2.27	48.76	3.49	34.39	34.91	Average	192	57	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5240 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11n MCS0 HT20 CH 149, 157, 165 / Chain 1 + Chain 2 / 2TX
Test Date	May 07, 2014		

Channel 149

	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	5712.60	66.85	68.20	-1.35	63.51	3.60	34.68	34.94	Peak	121	53	HORIZONTAL
2	5724.04	70.78	78.20	-7.42	67.43	3.60	34.69	34.94	Peak	121	53	HORIZONTAL
3	5744.04	104.80			101.43	3.61	34.70	34.94	Average	121	53	HORIZONTAL
4	5746.44	116.37			113.00	3.61	34.70	34.94	Peak	121	53	HORIZONTAL
5	5857.12	64.06	78.20	-14.14	60.63	3.64	34.74	34.95	Peak	121	53	HORIZONTAL
6	5861.92	63.40	68.20	-4.80	59.96	3.65	34.74	34.95	Peak	121	53	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5745 MHz.

Channel 157

	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	5712.12	66.85	68.20	-1.35	63.51	3.60	34.68	34.94	Peak	186	65	HORIZONTAL
2	5720.67	62.43	78.20	-15.77	59.08	3.60	34.69	34.94	Peak	186	65	HORIZONTAL
3	5786.44	107.66			104.25	3.63	34.72	34.94	Average	186	65	HORIZONTAL
4	5786.92	118.86			115.45	3.63	34.72	34.94	Peak	186	65	HORIZONTAL
5	5857.21	66.47	78.20	-11.73	63.04	3.64	34.74	34.95	Peak	186	65	HORIZONTAL
6	5864.33	66.58	68.20	-1.62	63.14	3.65	34.74	34.95	Peak	186	65	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5785 MHz.

Channel 165

	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	5711.64	64.98	68.20	-3.22	61.64	3.60	34.68	34.94	Peak	111	60	HORIZONTAL
2	5721.15	61.60	78.20	-16.60	58.25	3.60	34.69	34.94	Peak	111	60	HORIZONTAL
3	5824.04	105.48			102.07	3.63	34.73	34.95	Average	111	60	HORIZONTAL
4	5824.04	116.68			113.27	3.63	34.73	34.95	Peak	111	60	HORIZONTAL
5	5850.00	76.53	78.20	-1.67	73.10	3.64	34.74	34.95	Peak	111	60	HORIZONTAL
6	5860.48	66.93	68.20	-1.27	63.49	3.65	34.74	34.95	Peak	111	60	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5825 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11n MCS0 HT40 CH 38, 46 / Chain 1 + Chain 2 / 2TX
Test Date	May 07, 2014		

Channel 38

	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	5149.36	52.83	54.00	-1.17	50.20	3.43	34.11	34.91	Average	194	48	VERTICAL
2	5149.68	66.49	74.00	-7.51	63.86	3.43	34.11	34.91	Peak	194	48	VERTICAL
3	5184.23	99.35			96.66	3.44	34.16	34.91	Average	194	48	VERTICAL
4	5186.80	110.78			108.09	3.44	34.16	34.91	Peak	194	48	VERTICAL

Item 3, 4 are the fundamental frequency at 5190 MHz.

Channel 46

	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	5146.64	52.64	54.00	-1.36	50.01	3.43	34.11	34.91	Average	199	41	HORIZONTAL
2	5148.08	67.05	74.00	-6.95	64.42	3.43	34.11	34.91	Peak	199	41	HORIZONTAL
3	5224.71	103.70			100.92	3.46	34.23	34.91	Average	199	41	HORIZONTAL
4	5224.71	114.65			111.87	3.46	34.23	34.91	Peak	199	41	HORIZONTAL
5	5352.40	49.05	54.00	-4.95	46.08	3.49	34.39	34.91	Average	199	41	HORIZONTAL
6	5354.81	60.91	74.00	-13.09	57.94	3.49	34.39	34.91	Peak	199	41	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5230 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11n MCS0 HT40 CH 151, 159 / Chain 1 + Chain 2 / 2TX
Test Date	May 07, 2014		

Channel 151

	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	5713.56	67.08	68.20	-1.12	63.74	3.60	34.68	34.94	Peak	121	69	HORIZONTAL
2	5722.60	71.76	78.20	-6.44	68.41	3.60	34.69	34.94	Peak	121	69	HORIZONTAL
3	5758.85	100.21			96.83	3.62	34.70	34.94	Average	121	69	HORIZONTAL
4	5759.33	111.92			108.54	3.62	34.70	34.94	Peak	121	69	HORIZONTAL
5	5851.44	63.25	78.20	-14.95	59.82	3.64	34.74	34.95	Peak	121	69	HORIZONTAL
6	5864.33	62.67	68.20	-5.53	59.23	3.65	34.74	34.95	Peak	121	69	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5755 MHz.

Channel 159

	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	5712.12	64.56	68.20	-3.64	61.22	3.60	34.68	34.94	Peak	182	46	HORIZONTAL
2	5720.67	64.68	78.20	-13.52	61.33	3.60	34.69	34.94	Peak	182	46	HORIZONTAL
3	5789.71	101.46			98.05	3.63	34.72	34.94	Average	182	46	HORIZONTAL
4	5792.12	113.00			109.59	3.63	34.72	34.94	Peak	182	46	HORIZONTAL
5	5850.48	68.68	78.20	-9.52	65.25	3.64	34.74	34.95	Peak	182	46	HORIZONTAL
6	5864.33	66.85	68.20	-1.35	63.41	3.65	34.74	34.95	Peak	182	46	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5795 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Chain 1 + Chain 2 / 2TX
Test Date	May 07, 2014		

Channel 36

	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	5149.36	52.83	54.00	-1.17	50.20	3.43	34.11	34.91	Average	201	51	HORIZONTAL
2	5149.36	69.17	74.00	-4.83	66.54	3.43	34.11	34.91	Peak	201	51	HORIZONTAL
3	5178.72	117.53			114.84	3.44	34.16	34.91	Peak	201	51	HORIZONTAL
4	5179.04	106.98			104.29	3.44	34.16	34.91	Average	201	51	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

Channel 40

	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	5118.75	63.73	74.00	-10.27	61.15	3.43	34.06	34.91	Peak	197	47	HORIZONTAL
2	5119.23	52.73	54.00	-1.27	50.15	3.43	34.06	34.91	Average	197	47	HORIZONTAL
3	5201.92	105.60			102.88	3.45	34.18	34.91	Average	197	47	HORIZONTAL
4	5201.92	116.05			113.33	3.45	34.18	34.91	Peak	197	47	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5200 MHz.

Channel 48

	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	5127.89	62.33	74.00	-11.67	59.72	3.43	34.09	34.91	Peak	121	60	HORIZONTAL
2	5128.40	51.63	54.00	-2.37	49.02	3.43	34.09	34.91	Average	121	60	HORIZONTAL
3	5238.56	118.93			116.15	3.46	34.23	34.91	Peak	121	60	HORIZONTAL
4	5240.96	108.15			105.37	3.46	34.23	34.91	Average	121	60	HORIZONTAL
5	5359.14	52.67	54.00	-1.33	49.70	3.49	34.39	34.91	Average	121	60	HORIZONTAL
6	5361.06	63.94	74.00	-10.06	60.95	3.49	34.41	34.91	Peak	121	60	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5240 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Chain 1 + Chain 2 / 2TX
Test Date	May 07, 2014		

Channel 149

	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	5713.56	66.83	68.20	-1.37	63.49	3.60	34.68	34.94	Peak	110	65	HORIZONTAL
2	5724.04	77.00	78.20	-1.20	73.65	3.60	34.69	34.94	Peak	110	65	HORIZONTAL
3	5746.44	105.30			101.93	3.61	34.70	34.94	Average	110	65	HORIZONTAL
4	5746.44	116.63			113.26	3.61	34.70	34.94	Peak	110	65	HORIZONTAL
5	5857.12	65.39	78.20	-12.81	61.96	3.64	34.74	34.95	Peak	110	65	HORIZONTAL
6	5863.85	65.91	68.20	-2.29	62.47	3.65	34.74	34.95	Peak	110	65	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5745 MHz.

Channel 157

	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	5709.23	66.93	68.20	-1.27	63.59	3.60	34.68	34.94	Peak	184	66	HORIZONTAL
2	5723.56	62.11	78.20	-16.09	58.76	3.60	34.69	34.94	Peak	184	66	HORIZONTAL
3	5784.04	107.76			104.36	3.63	34.71	34.94	Average	184	66	HORIZONTAL
4	5786.44	118.78			115.37	3.63	34.72	34.94	Peak	184	66	HORIZONTAL
5	5859.62	66.98	78.20	-11.22	63.54	3.65	34.74	34.95	Peak	184	66	HORIZONTAL
6	5864.42	66.28	68.20	-1.92	62.84	3.65	34.74	34.95	Peak	184	66	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5785 MHz.

Channel 165

	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	5696.73	65.51	68.20	-2.69	62.18	3.59	34.68	34.94	Peak	111	60	HORIZONTAL
2	5721.15	61.27	78.20	-16.93	57.92	3.60	34.69	34.94	Peak	111	60	HORIZONTAL
3	5824.04	104.47			101.06	3.63	34.73	34.95	Average	111	60	HORIZONTAL
4	5826.44	115.38			111.97	3.63	34.73	34.95	Peak	111	60	HORIZONTAL
5	5850.48	74.33	78.20	-3.87	70.90	3.64	34.74	34.95	Peak	111	60	HORIZONTAL
6	5860.96	67.12	68.20	-1.08	63.68	3.65	34.74	34.95	Peak	111	60	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5825 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Chain 1 + Chain 2 / 2TX
Test Date	May 07, 2014		

Channel 38

	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	5146.80	71.13	74.00	-2.87	68.50	3.43	34.11	34.91	Peak	194	35	HORIZONTAL
2	5149.68	52.91	54.00	-1.09	50.28	3.43	34.11	34.91	Average	194	35	HORIZONTAL
3	5184.55	99.52			96.83	3.44	34.16	34.91	Average	194	35	HORIZONTAL
4	5184.87	111.27			108.58	3.44	34.16	34.91	Peak	194	35	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5190 MHz.

Channel 46

	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	5145.67	66.92	74.00	-7.08	64.29	3.43	34.11	34.91	Peak	210	65	HORIZONTAL
2	5148.56	52.73	54.00	-1.27	50.10	3.43	34.11	34.91	Average	210	65	HORIZONTAL
3	5223.75	104.17			101.42	3.46	34.20	34.91	Average	210	65	HORIZONTAL
4	5224.23	115.65			112.90	3.46	34.20	34.91	Peak	210	65	HORIZONTAL
5	5351.44	48.85	54.00	-5.15	45.88	3.49	34.39	34.91	Average	210	65	HORIZONTAL
6	5353.85	62.01	74.00	-11.99	59.04	3.49	34.39	34.91	Peak	210	65	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5230 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Chain 1 + Chain 2 / 2TX
Test Date	May 07, 2014		

Channel 151

	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	5710.67	67.11	68.20	-1.09	63.77	3.60	34.68	34.94	Peak	123	69	HORIZONTAL
2	5718.27	76.52	78.20	-1.68	73.17	3.60	34.69	34.94	Peak	123	69	HORIZONTAL
3	5758.85	100.71			97.33	3.62	34.70	34.94	Average	123	69	HORIZONTAL
4	5758.85	111.93			108.55	3.62	34.70	34.94	Peak	123	69	HORIZONTAL
5	5851.44	62.81	78.20	-15.39	59.38	3.64	34.74	34.95	Peak	123	69	HORIZONTAL
6	5860.96	61.82	68.20	-6.38	58.38	3.65	34.74	34.95	Peak	123	69	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5755 MHz.

Channel 159

	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	5714.04	65.01	68.20	-3.19	61.67	3.60	34.68	34.94	Peak	193	53	HORIZONTAL
2	5721.64	68.33	78.20	-9.87	64.98	3.60	34.69	34.94	Peak	193	53	HORIZONTAL
3	5799.81	101.54			98.13	3.63	34.72	34.94	Average	193	53	HORIZONTAL
4	5802.21	113.38			109.97	3.63	34.72	34.94	Peak	193	53	HORIZONTAL
5	5852.89	75.85	78.20	-2.35	72.42	3.64	34.74	34.95	Peak	193	53	HORIZONTAL
6	5861.44	66.78	68.20	-1.42	63.34	3.65	34.74	34.95	Peak	193	53	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5795 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 155 / Chain 1 + Chain 2 / 2TX
Test Date	May 07, 2014		

Channel 42

	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	5146.80	52.80	54.00	-1.20	50.17	3.43	34.11	34.91	Average	209	51	HORIZONTAL
2	5149.20	70.26	74.00	-3.74	67.63	3.43	34.11	34.91	Peak	209	51	HORIZONTAL
3	5198.78	95.37			92.65	3.45	34.18	34.91	Average	209	51	HORIZONTAL
4	5198.78	108.80			106.08	3.45	34.18	34.91	Peak	209	51	HORIZONTAL
5	5350.00	44.21	54.00	-9.79	41.24	3.49	34.39	34.91	Average	209	51	HORIZONTAL
6	5356.41	55.19	74.00	-18.81	52.22	3.49	34.39	34.91	Peak	209	51	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5210 MHz.

Channel 155

	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	5712.60	67.04	68.20	-1.16	63.70	3.60	34.68	34.94	Peak	182	53	HORIZONTAL
2	5718.59	71.54	78.20	-6.66	68.19	3.60	34.69	34.94	Peak	182	53	HORIZONTAL
3	5762.18	109.20			105.82	3.62	34.70	34.94	Peak	182	53	HORIZONTAL
4	5764.58	95.94			92.56	3.62	34.70	34.94	Average	182	53	HORIZONTAL
5	5854.01	66.77	78.20	-11.43	63.34	3.64	34.74	34.95	Peak	182	53	HORIZONTAL
6	5861.60	66.76	68.20	-1.44	63.32	3.65	34.74	34.95	Peak	182	53	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5775 MHz.

<For Beamforming Mode>

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11n MCS0 HT20 CH 36, 40, 48 / Chain 1 + Chain 2 / 2TX
Test Date	May 08, 2014		

Channel 36

	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	5063.46	63.70	74.00	-10.30	61.21	3.40	33.99	34.90	Peak	127	66	HORIZONTAL
2	5065.06	52.60	54.00	-1.40	50.11	3.40	33.99	34.90	Average	127	66	HORIZONTAL
3	5171.99	117.33			114.67	3.44	34.13	34.91	Peak	127	66	HORIZONTAL
4	5178.40	106.71			104.02	3.44	34.16	34.91	Average	127	66	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

Channel 40

	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	5112.34	63.86	74.00	-10.14	61.28	3.42	34.06	34.90	Peak	124	54	HORIZONTAL
2	5121.15	52.89	54.00	-1.11	50.31	3.43	34.06	34.91	Average	124	54	HORIZONTAL
3	5193.59	117.27			114.56	3.44	34.18	34.91	Peak	124	54	HORIZONTAL
4	5201.60	106.81			104.09	3.45	34.18	34.91	Average	124	54	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5200 MHz.

Channel 48

	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	5122.76	64.38	74.00	-9.62	61.77	3.43	34.09	34.91	Peak	137	66	HORIZONTAL
2	5127.56	52.79	54.00	-1.21	50.18	3.43	34.09	34.91	Average	137	66	HORIZONTAL
3	5240.80	109.38			106.60	3.46	34.23	34.91	Average	137	66	HORIZONTAL
4	5243.21	119.89			117.09	3.46	34.25	34.91	Peak	137	66	HORIZONTAL
5	5352.40	63.98	74.00	-10.02	61.01	3.49	34.39	34.91	Peak	137	66	HORIZONTAL
6	5354.01	52.13	54.00	-1.87	49.16	3.49	34.39	34.91	Average	137	66	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5240 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11n MCS0 HT20 CH 149, 157, 165 / Chain 1 + Chain 2 / 2TX
Test Date	May 14, 2014		

Channel 149

	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	5666.00	67.10	68.20	-1.10	63.78	3.59	34.66	34.93	Peak	118	292	VERTICAL
2	5725.00	66.74	78.20	-11.46	63.39	3.60	34.69	34.94	Peak	118	292	VERTICAL
3	5744.00	104.52			101.15	3.61	34.70	34.94	Average	118	292	VERTICAL
4	5747.00	114.95			111.58	3.61	34.70	34.94	Peak	118	292	VERTICAL
5	5852.00	66.05	78.20	-12.15	62.62	3.64	34.74	34.95	Peak	118	292	VERTICAL
6	5868.00	66.13	68.20	-2.07	62.69	3.65	34.74	34.95	Peak	118	292	VERTICAL

Item 3, 4 are the fundamental frequency at 5745 MHz.

Channel 157

	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	5699.00	66.68	68.20	-1.52	63.35	3.59	34.68	34.94	Peak	176	55	HORIZONTAL
2	5720.00	65.72	78.20	-12.48	62.37	3.60	34.69	34.94	Peak	176	55	HORIZONTAL
3	5782.00	104.78			101.38	3.63	34.71	34.94	Average	176	55	HORIZONTAL
4	5782.00	116.15			112.75	3.63	34.71	34.94	Peak	176	55	HORIZONTAL
5	5857.00	65.80	78.20	-12.40	62.37	3.64	34.74	34.95	Peak	176	55	HORIZONTAL
6	5864.00	66.85	68.20	-1.35	63.41	3.65	34.74	34.95	Peak	176	55	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5785 MHz.

Channel 165

	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	5714.00	66.67	68.20	-1.53	63.33	3.60	34.68	34.94	Peak	103	49	HORIZONTAL
2	5718.00	65.87	78.20	-12.33	62.52	3.60	34.69	34.94	Peak	103	49	HORIZONTAL
3	5827.00	103.45			100.04	3.63	34.73	34.95	Average	103	49	HORIZONTAL
4	5828.00	115.87			112.46	3.63	34.73	34.95	Peak	103	49	HORIZONTAL
5	5850.00	66.15	78.20	-12.05	62.72	3.64	34.74	34.95	Peak	103	49	HORIZONTAL
6	5910.00	66.94	68.20	-1.26	63.45	3.67	34.77	34.95	Peak	103	49	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5825 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11n MCS0 HT40 CH 38, 46 / Chain 1 + Chain 2 / 2TX
Test Date	May 08, 2014		

Channel 38

	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	5148.40	52.82	54.00	-1.18	50.19	3.43	34.11	34.91	Average	111	53	HORIZONTAL
2	5149.20	66.43	74.00	-7.57	63.80	3.43	34.11	34.91	Peak	111	53	HORIZONTAL
3	5194.01	101.31			98.60	3.44	34.18	34.91	Average	111	53	HORIZONTAL
4	5196.41	112.28			109.56	3.45	34.18	34.91	Peak	111	53	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5190 MHz.

Channel 46

	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	5137.18	64.10	74.00	-9.90	61.49	3.43	34.09	34.91	Peak	134	59	HORIZONTAL
2	5143.59	52.54	54.00	-1.46	49.91	3.43	34.11	34.91	Average	134	59	HORIZONTAL
3	5225.99	105.70			102.92	3.46	34.23	34.91	Average	134	59	HORIZONTAL
4	5225.99	117.38			114.60	3.46	34.23	34.91	Peak	134	59	HORIZONTAL
5	5350.80	50.85	54.00	-3.15	47.88	3.49	34.39	34.91	Average	134	59	HORIZONTAL
6	5350.80	62.72	74.00	-11.28	59.75	3.49	34.39	34.91	Peak	134	59	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5230 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11n MCS0 HT40 CH 151, 159 / Chain 1 + Chain 2 / 2TX
Test Date	May 14, 2014		

Channel 151

	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	5663.00	67.14	68.20	-1.06	63.82	3.59	34.66	34.93	Average	119	63	HORIZONTAL
2	5723.00	70.03	78.20	-8.17	66.68	3.60	34.69	34.94	Average	119	63	HORIZONTAL
3	5759.00	112.73			109.35	3.62	34.70	34.94	Average	119	63	HORIZONTAL
4	5759.00	100.76			97.38	3.62	34.70	34.94	Average	119	63	HORIZONTAL
5	5858.00	65.86	78.20	-12.34	62.42	3.65	34.74	34.95	Average	119	63	HORIZONTAL
6	5865.00	66.05	68.20	-2.15	62.61	3.65	34.74	34.95	Average	119	63	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5755 MHz.

Channel 159

	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	5704.00	67.05	68.20	-1.15	63.72	3.59	34.68	34.94	Peak	179	67	HORIZONTAL
2	5719.00	66.82	78.20	-11.38	63.47	3.60	34.69	34.94	Peak	179	67	HORIZONTAL
3	5789.00	113.44			110.03	3.63	34.72	34.94	Peak	179	67	HORIZONTAL
4	5799.00	101.44			98.03	3.63	34.72	34.94	Average	179	67	HORIZONTAL
5	5857.00	66.30	78.20	-11.90	62.87	3.64	34.74	34.95	Peak	179	67	HORIZONTAL
6	5872.00	66.88	68.20	-1.32	63.43	3.65	34.75	34.95	Peak	179	67	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5795 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Chain 1 + Chain 2 / 2TX
Test Date	May 08, 2014		

Channel 36

	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	5060.26	52.58	54.00	-1.42	50.09	3.40	33.99	34.90	Average	126	63	HORIZONTAL
2	5065.06	64.01	74.00	-9.99	61.52	3.40	33.99	34.90	Peak	126	63	HORIZONTAL
3	5173.59	117.22			114.53	3.44	34.16	34.91	Peak	126	63	HORIZONTAL
4	5178.40	106.80			104.11	3.44	34.16	34.91	Average	126	63	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

Channel 40

	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	5122.76	52.51	54.00	-1.49	49.90	3.43	34.09	34.91	Average	124	62	HORIZONTAL
2	5123.56	63.70	74.00	-10.30	61.09	3.43	34.09	34.91	Peak	124	62	HORIZONTAL
3	5199.20	117.25			114.53	3.45	34.18	34.91	Peak	124	62	HORIZONTAL
4	5200.80	106.98			104.26	3.45	34.18	34.91	Average	124	62	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5200 MHz.

Channel 48

	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	5122.76	65.18	74.00	-8.82	62.57	3.43	34.09	34.91	Peak	121	58	HORIZONTAL
2	5125.96	52.91	54.00	-1.09	50.30	3.43	34.09	34.91	Average	121	58	HORIZONTAL
3	5239.20	119.50			116.72	3.46	34.23	34.91	Peak	121	58	HORIZONTAL
4	5241.60	108.74			105.94	3.46	34.25	34.91	Average	121	58	HORIZONTAL
5	5359.62	52.27	54.00	-1.73	49.30	3.49	34.39	34.91	Average	121	58	HORIZONTAL
6	5363.62	64.18	74.00	-9.82	61.19	3.49	34.41	34.91	Peak	121	58	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5240 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Chain 1 + Chain 2 / 2TX
Test Date	May 14, 2014		

Channel 149

	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	5628.00	66.93	68.20	-1.27	63.64	3.57	34.65	34.93	Peak	108	64	HORIZONTAL
2	5724.00	66.91	78.20	-11.29	63.56	3.60	34.69	34.94	Peak	108	64	HORIZONTAL
3	5746.00	115.42			112.05	3.61	34.70	34.94	Peak	108	64	HORIZONTAL
4	5747.00	104.10			100.73	3.61	34.70	34.94	Average	108	64	HORIZONTAL
5	5860.00	65.43	68.20	-2.77	61.99	3.65	34.74	34.95	Peak	108	64	HORIZONTAL
6	5864.00	66.74	68.20	-1.46	63.30	3.65	34.74	34.95	Peak	108	64	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5745 MHz.

Channel 157

	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	5702.00	67.00	68.20	-1.20	63.67	3.59	34.68	34.94	Peak	178	79	HORIZONTAL
2	5725.00	64.85	78.20	-13.35	61.50	3.60	34.69	34.94	Peak	178	79	HORIZONTAL
3	5787.00	101.28			97.87	3.63	34.72	34.94	Average	178	79	HORIZONTAL
4	5787.00	112.46			109.05	3.63	34.72	34.94	Peak	178	79	HORIZONTAL
5	5857.00	66.57	78.20	-11.63	63.14	3.64	34.74	34.95	Peak	178	79	HORIZONTAL
6	5866.00	65.86	68.20	-2.34	62.42	3.65	34.74	34.95	Peak	178	79	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5785 MHz.

Channel 165

	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	5702.00	66.72	68.20	-1.48	63.39	3.59	34.68	34.94	Peak	115	55	HORIZONTAL
2	5722.00	65.84	78.20	-12.36	62.49	3.60	34.69	34.94	Peak	115	55	HORIZONTAL
3	5827.00	104.18			100.77	3.63	34.73	34.95	Average	115	55	HORIZONTAL
4	5827.00	115.61			112.20	3.63	34.73	34.95	Peak	115	55	HORIZONTAL
5	5850.00	65.97	78.20	-12.23	62.54	3.64	34.74	34.95	Peak	115	55	HORIZONTAL
6	5881.00	66.89	68.20	-1.31	63.44	3.65	34.75	34.95	Peak	115	55	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5825 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Chain 1 + Chain 2 / 2TX
Test Date	May 08, 2014		

Channel 38

	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	64.80	74.00	-9.20	62.17	3.43	34.11	34.91	Peak	137	65	HORIZONTAL
2	5150.00	52.83	54.00	-1.17	50.20	3.43	34.11	34.91	Average	137	65	HORIZONTAL
3	5185.99	101.74			99.05	3.44	34.16	34.91	Average	137	65	HORIZONTAL
4	5185.99	113.49			110.80	3.44	34.16	34.91	Peak	137	65	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5190 MHz.

Channel 46

	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	5145.99	52.52	54.00	-1.48	49.89	3.43	34.11	34.91	Average	126	63	HORIZONTAL
2	5148.40	64.13	74.00	-9.87	61.50	3.43	34.11	34.91	Peak	126	63	HORIZONTAL
3	5223.59	104.99			102.24	3.46	34.20	34.91	Average	126	63	HORIZONTAL
4	5225.99	116.92			114.14	3.46	34.23	34.91	Peak	126	63	HORIZONTAL
5	5350.80	49.54	54.00	-4.46	46.57	3.49	34.39	34.91	Average	126	63	HORIZONTAL
6	5355.61	60.96	74.00	-13.04	57.99	3.49	34.39	34.91	Peak	126	63	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5230 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Chain 1 + Chain 2 / 2TX
Test Date	May 14, 2014		

Channel 151

	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	5714.00	67.18	68.20	-1.02	63.84	3.60	34.68	34.94	Peak	110	70	HORIZONTAL
2	5721.00	69.35	78.20	-8.85	66.00	3.60	34.69	34.94	Peak	110	70	HORIZONTAL
3	5759.00	99.11			95.73	3.62	34.70	34.94	Average	110	70	HORIZONTAL
4	5759.00	110.32			106.94	3.62	34.70	34.94	Peak	110	70	HORIZONTAL
5	5852.00	66.23	78.20	-11.97	62.80	3.64	34.74	34.95	Peak	110	70	HORIZONTAL
6	5929.00	66.64	68.20	-1.56	63.15	3.67	34.77	34.95	Peak	110	70	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5755 MHz.

Channel 159

	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	5677.00	66.73	68.20	-1.47	63.40	3.59	34.67	34.93	Peak	181	64	HORIZONTAL
2	5717.00	66.58	78.20	-11.62	63.24	3.60	34.68	34.94	Peak	181	64	HORIZONTAL
3	5789.00	99.43			96.02	3.63	34.72	34.94	Average	181	64	HORIZONTAL
4	5790.00	111.29			107.88	3.63	34.72	34.94	Peak	181	64	HORIZONTAL
5	5854.00	66.11	78.20	-12.09	62.68	3.64	34.74	34.95	Peak	181	64	HORIZONTAL
6	5893.00	66.03	68.20	-2.17	62.56	3.66	34.76	34.95	Peak	181	64	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5795 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 155 / Chain 1 + Chain 2 / 2TX
Test Date	May 08, 2014 ~ May 14, 2014		

Channel 42

	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	5147.60	69.78	74.00	-4.22	67.15	3.43	34.11	34.91	Peak	124	67	HORIZONTAL
2	5148.40	52.54	54.00	-1.46	49.91	3.43	34.11	34.91	Average	124	67	HORIZONTAL
3	5216.41	96.31			93.57	3.45	34.20	34.91	Average	124	67	HORIZONTAL
4	5218.81	109.18			106.44	3.45	34.20	34.91	Peak	124	67	HORIZONTAL
5	5350.80	47.71	54.00	-6.29	44.74	3.49	34.39	34.91	Average	124	67	HORIZONTAL
6	5361.22	59.23	74.00	-14.77	56.24	3.49	34.41	34.91	Peak	124	67	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5210 MHz.

Channel 155

	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	5712.00	67.17	68.20	-1.03	63.83	3.60	34.68	34.94	Peak	120	67	HORIZONTAL
2	5724.00	70.34	78.20	-7.86	66.99	3.60	34.69	34.94	Peak	120	67	HORIZONTAL
3	5762.00	106.00			102.62	3.62	34.70	34.94	Peak	120	67	HORIZONTAL
4	5764.00	92.62			89.24	3.62	34.70	34.94	Average	120	67	HORIZONTAL
5	5851.00	66.35	78.20	-11.85	62.92	3.64	34.74	34.95	Peak	120	67	HORIZONTAL
6	5860.00	64.56	68.20	-3.64	61.12	3.65	34.74	34.95	Peak	120	67	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5775 MHz.

<For STBC Mode>

Temperature	24℃	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11n MCS0 HT20 CH 36, 40, 48 / Chain 1 + Chain 2 / 2TX
Test Date	May 07, 2014		

Channel 36

	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	5148.08	70.32	74.00	-3.68	67.69	3.43	34.11	34.91	Peak	205	47	HORIZONTAL
2	5150.00	52.57	54.00	-1.43	49.94	3.43	34.11	34.91	Average	205	47	HORIZONTAL
3	5178.72	106.09			103.40	3.44	34.16	34.91	Average	205	47	HORIZONTAL
4	5179.04	117.61			114.92	3.44	34.16	34.91	Peak	205	47	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

Channel 40

	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	5080.77	52.83	54.00	-1.17	50.30	3.41	34.02	34.90	Average	125	53	HORIZONTAL
2	5083.65	65.78	74.00	-8.22	63.25	3.41	34.02	34.90	Peak	125	53	HORIZONTAL
3	5198.56	106.04			103.32	3.45	34.18	34.91	Average	125	53	HORIZONTAL
4	5198.56	118.88			116.16	3.45	34.18	34.91	Peak	125	53	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5200 MHz.

Channel 48

	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	5127.89	52.70	54.00	-1.30	50.09	3.43	34.09	34.91	Average	121	50	HORIZONTAL
2	5127.89	64.80	74.00	-9.20	62.19	3.43	34.09	34.91	Peak	121	50	HORIZONTAL
3	5238.56	119.92			117.14	3.46	34.23	34.91	Peak	121	50	HORIZONTAL
4	5240.96	107.70			104.92	3.46	34.23	34.91	Average	121	50	HORIZONTAL
5	5351.92	49.61	54.00	-4.39	46.64	3.49	34.39	34.91	Average	121	50	HORIZONTAL
6	5354.33	61.93	74.00	-12.07	58.96	3.49	34.39	34.91	Peak	121	50	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5240 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11n MCS0 HT20 CH 149, 157, 165 / Chain 1 + Chain 2 / 2TX
Test Date	May 14, 2014		

Channel 149

	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	5715.00	66.73	68.20	-1.47	63.39	3.60	34.68	34.94	Peak	180	63	HORIZONTAL
2	5724.00	72.29	78.20	-5.91	68.94	3.60	34.69	34.94	Peak	180	63	HORIZONTAL
3	5744.00	103.36			99.99	3.61	34.70	34.94	Average	180	63	HORIZONTAL
4	5748.00	115.73			112.36	3.61	34.70	34.94	Peak	180	63	HORIZONTAL
5	5858.00	60.95	78.20	-17.25	57.51	3.65	34.74	34.95	Peak	180	63	HORIZONTAL
6	5868.00	62.35	68.20	-5.85	58.91	3.65	34.74	34.95	Peak	180	63	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5745 MHz.

Channel 157

	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	5709.00	66.55	68.20	-1.65	63.21	3.60	34.68	34.94	Peak	111	69	HORIZONTAL
2	5725.00	62.96	78.20	-15.24	59.61	3.60	34.69	34.94	Peak	111	69	HORIZONTAL
3	5784.00	119.98			116.58	3.63	34.71	34.94	Peak	111	69	HORIZONTAL
4	5786.00	107.79			104.38	3.63	34.72	34.94	Average	111	69	HORIZONTAL
5	5856.00	64.70	78.20	-13.50	61.27	3.64	34.74	34.95	Peak	111	69	HORIZONTAL
6	5864.00	66.82	68.20	-1.38	63.38	3.65	34.74	34.95	Peak	111	69	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5785 MHz.

Channel 165

	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	5663.00	63.96	68.20	-4.24	60.64	3.59	34.66	34.93	Peak	110	67	HORIZONTAL
2	5725.00	60.62	78.20	-17.58	57.27	3.60	34.69	34.94	Peak	110	67	HORIZONTAL
3	5824.00	104.67			101.26	3.63	34.73	34.95	Average	110	67	HORIZONTAL
4	5826.00	116.82			113.41	3.63	34.73	34.95	Peak	110	67	HORIZONTAL
5	5852.00	74.39	78.20	-3.81	70.96	3.64	34.74	34.95	Peak	110	67	HORIZONTAL
6	5863.00	66.72	68.20	-1.48	63.28	3.65	34.74	34.95	Peak	110	67	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5825 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11n MCS0 HT40 CH 38, 46 / Chain 1 + Chain 2 / 2TX
Test Date	May 07, 2014		

Channel 38

	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	5150.00	52.80	54.00	-1.20	50.17	3.43	34.11	34.91	Average	195	47	HORIZONTAL
2	5150.00	70.81	74.00	-3.19	68.18	3.43	34.11	34.91	Peak	195	47	HORIZONTAL
3	5185.19	99.20			96.51	3.44	34.16	34.91	Average	195	47	HORIZONTAL
4	5185.19	112.49			109.80	3.44	34.16	34.91	Peak	195	47	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5190 MHz.

Channel 46

	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	5142.31	67.06	74.00	-6.94	64.43	3.43	34.11	34.91	Peak	122	56	HORIZONTAL
2	5148.08	52.89	54.00	-1.11	50.26	3.43	34.11	34.91	Average	122	56	HORIZONTAL
3	5233.37	117.77			114.99	3.46	34.23	34.91	Peak	122	56	HORIZONTAL
4	5233.85	105.00			102.22	3.46	34.23	34.91	Average	122	56	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5230 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11n MCS0 HT40 CH 151, 159 / Chain 1 + Chain 2 / 2TX
Test Date	May 14, 2014 ~ May 15, 2014		

Channel 151

	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	5714.00	67.17	68.20	-1.03	63.83	3.60	34.68	34.94	Peak	100	65	HORIZONTAL
2	5725.00	69.24	78.20	-8.96	65.89	3.60	34.69	34.94	Peak	100	65	HORIZONTAL
3	5758.00	110.90			107.52	3.62	34.70	34.94	Peak	100	65	HORIZONTAL
4	5761.00	98.35			94.97	3.62	34.70	34.94	Average	100	65	HORIZONTAL
5	5852.00	62.37	78.20	-15.83	58.94	3.64	34.74	34.95	Peak	100	65	HORIZONTAL
6	5890.00	62.45	68.20	-5.75	58.98	3.66	34.76	34.95	Peak	100	65	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5755 MHz.

Channel 159

	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	5675.00	64.02	68.20	-4.18	60.69	3.59	34.67	34.93	Peak	178	58	HORIZONTAL
2	5719.00	65.00	78.20	-13.20	61.65	3.60	34.69	34.94	Peak	178	58	HORIZONTAL
3	5782.00	114.33			110.93	3.63	34.71	34.94	Peak	178	58	HORIZONTAL
4	5790.00	101.05			97.64	3.63	34.72	34.94	Average	178	58	HORIZONTAL
5	5850.00	70.19	78.20	-8.01	66.76	3.64	34.74	34.95	Peak	178	58	HORIZONTAL
6	5861.00	66.67	68.20	-1.53	63.23	3.65	34.74	34.95	Peak	178	58	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5795 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Chain 1 + Chain 2 / 2TX
Test Date	May 07, 2014		

Channel 36

	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	5147.12	71.16	74.00	-2.84	68.53	3.43	34.11	34.91	Peak	205	42	HORIZONTAL
2	5150.00	52.62	54.00	-1.38	49.99	3.43	34.11	34.91	Average	205	42	HORIZONTAL
3	5181.44	118.21			115.52	3.44	34.16	34.91	Peak	205	42	HORIZONTAL
4	5181.92	105.63			102.94	3.44	34.16	34.91	Average	205	42	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

Channel 40

	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	5125.96	63.99	74.00	-10.01	61.38	3.43	34.09	34.91	Peak	206	45	HORIZONTAL
2	5126.44	52.51	54.00	-1.49	49.90	3.43	34.09	34.91	Average	206	45	HORIZONTAL
3	5199.04	118.36			115.64	3.45	34.18	34.91	Peak	206	45	HORIZONTAL
4	5201.92	106.32			103.60	3.45	34.18	34.91	Average	206	45	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5200 MHz.

Channel 48

	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	5116.83	65.07	74.00	-8.93	62.49	3.42	34.06	34.90	Peak	193	33	HORIZONTAL
2	5122.12	52.70	54.00	-1.30	50.12	3.43	34.06	34.91	Average	193	33	HORIZONTAL
3	5239.52	120.43			117.65	3.46	34.23	34.91	Peak	193	33	HORIZONTAL
4	5241.92	108.67			105.87	3.46	34.25	34.91	Average	193	33	HORIZONTAL
5	5357.69	52.07	54.00	-1.93	49.10	3.49	34.39	34.91	Average	193	33	HORIZONTAL
6	5359.62	63.44	74.00	-10.56	60.47	3.49	34.39	34.91	Peak	193	33	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5240 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Chain 1 + Chain 2 / 2TX
Test Date	May 15, 2014		

Channel 149

	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	5715.00	66.91	68.20	-1.29	63.57	3.60	34.68	34.94	Peak	100	38	HORIZONTAL
2	5725.00	71.97	78.20	-6.23	68.62	3.60	34.69	34.94	Peak	100	38	HORIZONTAL
3	5742.00	115.67			112.30	3.61	34.70	34.94	Peak	100	38	HORIZONTAL
4	5743.00	103.70			100.33	3.61	34.70	34.94	Average	100	38	HORIZONTAL
5	5853.00	61.45	78.20	-16.75	58.02	3.64	34.74	34.95	Peak	100	38	HORIZONTAL
6	5873.00	63.98	68.20	-4.22	60.53	3.65	34.75	34.95	Peak	100	38	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5745 MHz.

Channel 157

	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	5704.00	66.93	68.20	-1.27	63.60	3.59	34.68	34.94	Peak	178	55	HORIZONTAL
2	5724.00	62.06	78.20	-16.14	58.71	3.60	34.69	34.94	Peak	178	55	HORIZONTAL
3	5783.00	119.21			115.81	3.63	34.71	34.94	Peak	178	55	HORIZONTAL
4	5787.00	107.25			103.84	3.63	34.72	34.94	Peak	178	55	HORIZONTAL
5	5857.00	65.85	78.20	-12.35	62.42	3.64	34.74	34.95	Peak	178	55	HORIZONTAL
6	5911.00	66.77	68.20	-1.43	63.28	3.67	34.77	34.95	Peak	178	55	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5785 MHz.

Channel 165

	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	5704.00	64.45	68.20	-3.75	61.12	3.59	34.68	34.94	Peak	118	291	HORIZONTAL
2	5718.00	62.63	78.20	-15.57	59.28	3.60	34.69	34.94	Peak	118	291	HORIZONTAL
3	5824.00	117.40			113.99	3.63	34.73	34.95	Peak	118	291	HORIZONTAL
4	5827.00	105.76			102.35	3.63	34.73	34.95	Average	118	291	HORIZONTAL
5	5850.00	72.49	78.20	-5.71	69.06	3.64	34.74	34.95	Peak	118	291	HORIZONTAL
6	5906.00	66.84	68.20	-1.36	63.36	3.66	34.77	34.95	Peak	118	291	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5825 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Chain 1 + Chain 2 / 2TX
Test Date	May 07, 2014		

Channel 38

	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	5141.35	67.27	74.00	-6.73	64.64	3.43	34.11	34.91	Peak	196	53	HORIZONTAL
2	5150.00	52.64	54.00	-1.36	50.01	3.43	34.11	34.91	Average	196	53	HORIZONTAL
3	5185.19	112.14			109.45	3.44	34.16	34.91	Peak	196	53	HORIZONTAL
4	5186.64	100.85			98.16	3.44	34.16	34.91	Average	196	53	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5190 MHz.

Channel 46

	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	5141.35	67.80	74.00	-6.20	65.17	3.43	34.11	34.91	Peak	134	57	HORIZONTAL
2	5146.15	52.59	54.00	-1.41	49.96	3.43	34.11	34.91	Average	134	57	HORIZONTAL
3	5233.37	105.19			102.41	3.46	34.23	34.91	Average	134	57	HORIZONTAL
4	5233.85	117.55			114.77	3.46	34.23	34.91	Peak	134	57	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5230 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Chain 1 + Chain 2 / 2TX
Test Date	May 15, 2014		

Channel 151

	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	5710.00	66.66	68.20	-1.54	63.32	3.60	34.68	34.94	Peak	109	65	HORIZONTAL
2	5723.00	72.18	78.20	-6.02	68.83	3.60	34.69	34.94	Peak	109	65	HORIZONTAL
3	5761.00	98.63			95.25	3.62	34.70	34.94	Average	109	65	HORIZONTAL
4	5769.00	111.78			108.39	3.62	34.71	34.94	Peak	109	65	HORIZONTAL
5	5850.00	63.62	78.20	-14.58	60.19	3.64	34.74	34.95	Peak	109	65	HORIZONTAL
6	5890.00	63.08	68.20	-5.12	59.61	3.66	34.76	34.95	Peak	109	65	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5755 MHz.

Channel 159

	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	5709.00	63.49	68.20	-4.71	60.15	3.60	34.68	34.94	Peak	178	61	HORIZONTAL
2	5723.00	64.43	78.20	-13.77	61.08	3.60	34.69	34.94	Peak	178	61	HORIZONTAL
3	5787.00	100.65			97.24	3.63	34.72	34.94	Average	178	61	HORIZONTAL
4	5801.00	114.07			110.66	3.63	34.72	34.94	Peak	178	61	HORIZONTAL
5	5851.00	72.02	78.20	-6.18	68.59	3.64	34.74	34.95	Peak	178	61	HORIZONTAL
6	5860.00	66.62	68.20	-1.58	63.18	3.65	34.74	34.95	Peak	178	61	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5795 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 155 / Chain 1 + Chain 2 / 2TX
Test Date	May 07, 2014 ~ May 15, 2014		

Channel 42

	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	5150.00	52.72	54.00	-1.28	50.09	3.43	34.11	34.91	Average	205	49	HORIZONTAL
2	5150.00	69.69	74.00	-4.31	67.06	3.43	34.11	34.91	Peak	205	49	HORIZONTAL
3	5198.78	107.97			105.25	3.45	34.18	34.91	Peak	205	49	HORIZONTAL
4	5222.02	96.01			93.26	3.46	34.20	34.91	Average	205	49	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5210 MHz.

Channel 155

	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	5708.00	66.73	68.20	-1.47	63.39	3.60	34.68	34.94	Peak	177	63	HORIZONTAL
2	5725.00	71.81	78.20	-6.39	68.46	3.60	34.69	34.94	Peak	177	63	HORIZONTAL
3	5783.00	93.35			89.95	3.63	34.71	34.94	Average	177	63	HORIZONTAL
4	5784.00	107.71			104.31	3.63	34.71	34.94	Peak	177	63	HORIZONTAL
5	5857.00	67.72	78.20	-10.48	64.29	3.64	34.74	34.95	Peak	177	63	HORIZONTAL
6	5864.00	66.21	68.20	-1.99	62.77	3.65	34.74	34.95	Peak	177	63	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5775 MHz.

4.8. Frequency Stability Measurement

4.8.1. Limit

In-band emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band (IEEE 802.11n specification).

4.8.2. Measuring Instruments and Setting

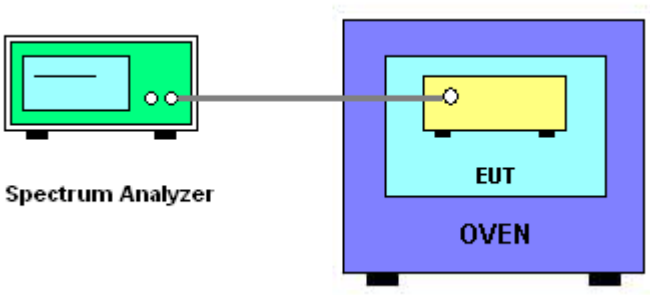
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Entire absence of modulation emissions bandwidth
RBW	10 kHz
VBW	10 kHz
Sweep Time	Auto

4.8.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. EUT have transmitted absence of modulation signal and fixed channelize.
3. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth.
4. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings.
5. fc is declaring of channel frequency. Then the frequency error formula is (fc-f)/fc × 10^6 ppm and the limit is less than ±20ppm (IEEE 802.11nspecification).
6. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value
7. Extreme temperature is 0°C~40°C.

4.8.4. Test Setup Layout



4.8.5. Test Deviation

There is no deviation with the original standard.

4.8.6. EUT Operation during Test

The EUT was programmed to be in continuously un-modulation transmitting mode.

4.8.7. Test Result of Frequency Stability

Temperature	20°C	Humidity	53%
Test Engineer	Jim Huang	Test Date	May 29, 2014

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	5200 MHz
126.50	5199.9594
110.00	5199.9598
93.50	5199.9599
Max. Deviation (MHz)	0.040600
Max. Deviation (ppm)	7.81

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(°C)	5200 MHz
0	5199.9592
10	5199.9596
20	5199.9598
30	5199.9606
40	5199.9614
Max. Deviation (MHz)	0.040800
Max. Deviation (ppm)	7.85

4.9. Antenna Requirements

4.9.1. Limit

Except for special regulations, the Low-power Radio-frequency Devices must not be equipped with any jacket for installing an antenna with extension cable. An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

4.9.2. Antenna Connector Construction

Please refer to section 3.3 in this test report; antenna connector complied with the requirements.

5. LIST OF MEASURING EQUIPMENTS

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMI Test Receiver	R&S	ESCS 30	100355	9kHz ~ 2.75GHz	Apr. 23, 2014	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Nov. 23, 2013	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127478	9kHz ~ 30MHz	Nov. 11, 2013	Conduction (CO01-CB)
COND Cable	Woken	Cable	01	150kHz ~ 30MHz	Dec. 04, 2013	Conduction (CO01-CB)
Software	Audix	E3	5.410e	-	N.C.R.	Conduction (CO01-CB)
BILOG ANTENNA	Schaffner	CBL6112B	2928	30MHz ~ 2GHz	Dec. 27, 2013	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30MHz	Nov. 05, 2012*	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz~18GHz	Nov. 01, 2013	Radiation (03CH01-CB)
Horn Antenna	SCHWARZBEAK	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Dec. 17, 2013	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10991	0.1MHz ~ 1.3GHz	Nov. 12, 2013	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Dec. 16, 2013	Radiation (03CH01-CB)
Pre-Amplifier	WM	TF-130N-R1	923365	26GHz ~ 40GHz	Oct. 23, 2013	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSP40	100019	9kHz~40GHz	Dec. 02, 2013	Radiation (03CH01-CB)
EMI Test Receiver	Agilent	N9038A	MY52260123	9kHz ~ 8GHz	Dec. 12, 2013	Radiation (03CH01-CB)
Turn Table	INN CO	CO 2000	N/A	0 ~ 360 degree	N.C.R.	Radiation (03CH01-CB)
Antenna Mast	INN CO	CO2000	N/A	1 m - 4 m	N.C.R.	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-1	N/A	30MHz - 1GHz	Nov. 17, 2013	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-3	N/A	1GHz – 40GHz	Nov. 17, 2013	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-4	N/A	1GHz – 40GHz	Nov. 17, 2013	Radiation (03CH01-CB)
Signal analyzer	R&S	FSV40	100979	9kHz~40GHz	Nov. 29, 2013	Conducted (TH01-CB)
Temp. and Humidity Chamber	Ten Billion	TTH-D3SP	TBN-931011	-30~100 degree	Jun. 04, 2013	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-7	-	1GHz – 26.5GHz	Nov. 17, 2013	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-8	-	1GHz – 26.5GHz	Nov. 17, 2013	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-9	-	1GHz – 26.5GHz	Nov. 17, 2013	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-10	-	1GHz – 26.5GHz	Nov. 17, 2013	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-11	-	1GHz – 26.5GHz	Nov. 17, 2013	Conducted (TH01-CB)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Power Sensor	Anritsu	MA2411B	0917223	300MHz~40GHz	Sep. 18, 2013	Conducted (TH01-CB)
Power Meter	Anritsu	ML2495A	1035008	300MHz~40GHz	Sep. 18, 2013	Conducted (TH01-CB)

Note: Calibration Interval of instruments listed above is one year.

"*" Calibration Interval of instruments listed above is two years.

N.C.R. means Non-Calibration required.

6. MEASUREMENT UNCERTAINTY

Test Items	Uncertainty	Remark
Conducted Emissions	1.7 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	2.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	2.6 dB	Confidence levels of 95%