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FCC RADIO TEST REPORT

Applicant's company	Broadcom Corporation
Applicant Address	190 Mathilda Place Sunnyvale CA 94086 U.S.A.
FCC ID	QDS-BRCM1085
Manufacturer's company	Broadcom Corporation
Manufacturer Address	190 Mathilda Place Sunnyvale CA 94086 U.S.A.

Product Name	Broadcom 802.11a/b/g/n/ac WLAN + Bluetooth PCI-E NGFF 2230 Card
Brand Name	Broadcom
Model Name	BCM94356Z
Part No.	BCM94356Z, BCM94356ZAE
Test Rule Part(s)	47 CFR FCC Part 15 Subpart E § 15.407
Test Freq. Range	5150 ~ 5350MHz / 5470 ~ 5725MHz / 5725 ~ 5850 MHz
Received Date	Jul. 31, 2014
Final Test Date	May 15, 2015
Submission Type	Class II Change
Operating Mode	Client (without radar detection function)

Statement

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

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

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

The measurements and test results shown in this test report were made in accordance with the procedures and found in compliance with the limit given in **ANSI C63.10-2009, 47 CFR FCC Part 15 Subpart E, KDB789033 D02 v01, KDB662911 D01 v02r01, KDB644545 D03 v01.**

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

Note: Using 1.5m table as an alternative was permitted by the FCC per TCBC conference call of Dec. 2, 2014.



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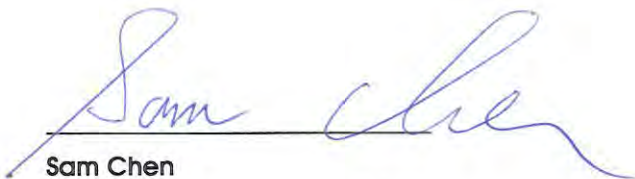
History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR473142-05AB	Rev. 01	Initial issue of report	Jun. 04, 2015

1. VERIFICATION OF COMPLIANCE

Product Name : Broadcom 802.11a/b/g/n/ac WLAN + Bluetooth PCI-E NGFF 2230 Card
Brand Name : Broadcom
Model Name : BCM94356Z
Part No. : BCM94356Z, BCM94356ZAE
Applicant : Broadcom Corporation
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 Jul. 31, 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	15.407(b)	Radiated Emissions	Complies	3.00 dB
4.2	15.407(b)	Band Edge Emissions	Complies	0.05 dB
4.3	15.203	Antenna Requirements	Complies	-

3. GENERAL INFORMATION

3.1. Product Details

IEEE 802.11n/ac

Items	Description
Product Type	WLAN (2TX, 2RX)
Radio Type	Intentional Transceiver
Power Type	From host system
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 ~ 5350MHz / 5470 ~ 5725MHz / 5725 ~ 5850 MHz
Channel Number	25 for 20MHz bandwidth ; 12 for 40MHz bandwidth 6 for 80MHz bandwidth
Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3

IEEE 802.11a

Items	Description
Product Type	WLAN (2TX, 2RX)
Radio Type	Intentional Transceiver
Power Type	From host system
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 ~ 5350MHz / 5470 ~ 5725MHz / 5725 ~ 5850 MHz
Channel Number	25
Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3

Items	Description	
Communication Mode	<input checked="" type="checkbox"/> IP Based (Load Based)	<input type="checkbox"/> Frame Based
TPC Function	<input checked="" type="checkbox"/> With TPC	<input type="checkbox"/> Without TPC
Weather Band (5600~5650MHz)	<input checked="" type="checkbox"/> With 5600~5650MHz	<input type="checkbox"/> Without 5600~5650MHz
Beamforming Function	<input checked="" type="checkbox"/> With beamforming	<input type="checkbox"/> Without beamforming
STBC Function	<input checked="" type="checkbox"/> With STBC	<input type="checkbox"/> Without STBC

Note: 1. The EUT has beamforming function for 802.11n/ac in 5GHz band 1~4.

2. The EUT has STBC function for 802.11n/ac in 5GHz band 1~4.

3. The MIMO transmission mode is correlated.

Antenna and Band width

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

IEEE 11n/ac Spec.

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

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

Then EUT support HT20 and HT40.

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

Note 3: Modulation modes consist of below configuration:

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

3.2. Accessories

N/A

3.3. Table for Filed Antenna

Ant.	Brand Holder	Model No.	Antenna Type	Connector	Gain (dBi)				
					2.4G/ BT	5G B1	5G B2	5G B3	5G B4
1	INPAQ TECHNOLOGY CO., LTD.	DAM-I6-H-DB-800-10-17	Dipole antenna	SMA RP PLUG	1.29	1.94	1.94	-0.49	-0.93

Note:

For 2.4 GHz WLAN function (2TX/2RX):

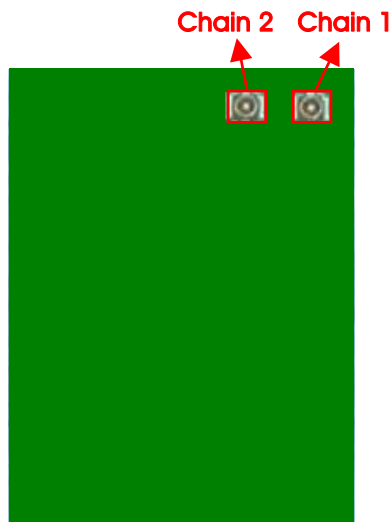
Chain 1 and Chain 2 could transmit/receive simultaneously.

For Bluetooth function (1TX/1RX):

Only Chain 1 could transmit/receive simultaneously.

For 5 GHz WLAN function (2TX/2RX):

Chain 1 and Chain 2 could transmit/receive simultaneously.



3.4. Table for Carrier Frequencies

There are three bandwidth systems.

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

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

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

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

3.5. Table for Test Modes

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

For non-beamforming function and beamforming function:

Test Items	Mode	Data Rate	Channel	Chain	
Radiated Emission Below 1GHz	Normal Link	-	-	-	
Radiated Emission Above 1GHz	For non-beamforming				
	11ac VHT20	Band 1-4	MCS0/Nss1	36/40/48/52/60/64/100/ 116/140/144/149/157/165	1+2
	11ac VHT40	Band 1-4	MCS0/Nss1	38/46/54/62/102/110/ 134/142/151/159	1+2
	11ac VHT80	Band 1-4	MCS0/Nss1	42/58/106/122/138/155	1+2
	11a/BPSK	Band 1-4	6Mbps	36/40/48/52/60/64/100/ 116/140/144/149/157/165	1+2
	For beamforming				
	11ac VHT20	Band 1-4	MCS0/Nss1	36/40/48/52/60/64/100/ 116/140/144/149/157/165	1+2
	11ac VHT40	Band 1-4	MCS0/Nss1	38/46/54/62/102/110/ 134/142/151/159	1+2
	11ac VHT80	Band 1-4	MCS0/Nss1	42/58/106/122/138/155	1+2
	Band Edge Emission	For non-beamforming			
11ac VHT20		Band 1-4	MCS0/Nss1	36/40/48/52/60/64/100/ 116/140/149/157/165	1+2
11ac VHT40		Band 1-4	MCS0/Nss1	38/46/54/62/102/110/ 134/151/159	1+2
11ac VHT80		Band 1-4	MCS0/Nss1	42/58/106/122/138/155	1+2
11a/BPSK		Band 1-4	6Mbps	36/40/48/52/60/64/100/ 116/140/149/157/165	1+2
For beamforming					
11ac VHT20		Band 1-4	MCS0/Nss1	36/40/48/52/60/64/100/ 116/140/144/149/157/165	1+2
11ac VHT40		Band 1-4	MCS0/Nss1	38/46/54/62/102/110/ 134/142/151/159	1+2
11ac VHT80		Band 1-4	MCS0/Nss1	42/58/106/122/138/155	1+2

Note: 1. VHT20/VHT40 covers HT20/HT40, due to same modulation.

2. Non-beamforming function and beamforming function for 802.11n/ac in 5GHz band 1~4, two functions test results were recorded in the report.

For STBC function:

Test Items	Mode		Data Rate	Channel	Chain
Radiated Emission Below 1GHz	Normal Link		-	-	-
Radiated Emission Above 1GHz	11n HT20	Band 1	MCS0	36/40/48	1+2
Band Edge Emission	11n HT20	Band 1	MCS0	36/40/48	1+2

Note: For STBC function: only the 802.11n in 20MHz bandwidth system of 5GHz band 1 was performed for all the tests and recorded in this report, and it was base on customer's request.

For Radiated Emission test below 1GHz:

According to original test report, the Radiated Emissions 9kHz~1GHz test was perform at its 3-axis (X-axis, Y-axis and Z-axis) and the worst-case was found at X-axis. Thus this test will follow this test mode.

Mode 1. 2.4GHz WLAN function + Bluetooth function

Mode 2. 5GHz WLAN function + Bluetooth function

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

For Radiated Emission test above 1GHz:

According to original test report, the Radiated Emissions above 1GHz test was perform at its 3-axis (X-axis, Y-axis and Z-axis) and the worst-case was found at X-axis. Thus this test will follow this test mode.

Mode 1. CTX-EUT

For Co-location test:

Mode 1. 2.4GHz WLAN function + Bluetooth function

Mode 2. 5GHz WLAN function + Bluetooth 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	-

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

3.7. Table for Class II Change and Multiple List

The EUT has two part numbers which are identical to each other in all aspects except for the following table:

Model No.	Part No.	Description
BCM94356Z	BCM94356Z	The base pin between these two models is different.
	BCM94356ZAE	

From the above models, part number: BCM94356Z was selected as representative model for the test and its data was recorded in this report.

This product is an extension of original one reported under Sporton project number: FR473142AB

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

Modifications	Performance Checking
Adding a dipole antenna	1. Radiated Emissions Measurement 2. Band Edge Emissions Measurement 3. Radiated Emission Co-location

Note: The above test items will be based on original output power to re-test.

3.8. Table for Supporting Units

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

Support Unit	Brand	Model	FCC ID
Notebook*2	DELL	E4300	DoC
Wireless ac AP	Netgear	R6300V2	PY313200227
Mouse	Logitech	M-U0026	DoC
Earphone	SHYARO CHI	MIC-04	N/A
Test Fixture*2	Broadcom	BCM9MC2EC_1	N/A
Broadcom 802.11a/b/g/n/ac WLAN + Bluetooth PCI-E NGFF 2230 Card (Device)	Broadcom	BCM94356Z	QDS-BRCM1085

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

For non-beamforming function and STBC function:

Support Unit	Brand	Model	FCC ID
Notebook	DELL	E4300	DoC
Test fixture	Broadcom	BCM9MC2EC_1	N/A

For beamforming function:

Support Unit	Brand	Model	FCC ID
Notebook	DELL	E4300	DoC
Test fixture	Broadcom	BCM9MC2EC_1	N/A
Wireless ac AP	Netgear	R7000	PY313200233

3.9. Table for Parameters of Test Software Setting

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

For non-beamforming function:

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20

Test Software Version	Manual Tool version: 2.0.2.1						
Frequency	5180 MHz	5200 MHz	5240 MHz	5260 MHz	5300 MHz	5320 MHz	5500 MHz
MCS0/Nss1 VHT20	68	78	78	79	79	70	70
Frequency	5580 MHz	5700 MHz	5720MHz	5745 MHz	5785 MHz	5825 MHz	
MCS0/Nss1 VHT20	79	68	76	67	80	71	

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40

Test Software Version	Manual Tool version: 2.0.2.1						
Frequency	5190 MHz	5230 MHz	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz
MCS0/Nss1 VHT40	58	80	80	62	55	80	71
Frequency	5710 MHz	5755 MHz	5795 MHz				
MCS0/Nss1 VHT40	80	51	68				

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80

Test Software Version	Manual Tool version: 2.0.2.1					
Frequency	5210 MHz	5290 MHz	5530 MHz	5610 MHz	5690 MHz	5775 MHz
MCS0/Nss1 VHT80	62	63	58	80	80	56

Power Parameters of IEEE 802.11a

Test Software Version	Manual Tool version: 2.0.2.1						
Frequency	5180 MHz	5200 MHz	5240 MHz	5260 MHz	5300 MHz	5320 MHz	5500 MHz
MCS0/Nss1 VHT20	68	78	78	78	78	70	70
Frequency	5580 MHz	5700 MHz	5720MHz	5745 MHz	5785 MHz	5825 MHz	
MCS0/Nss1 VHT20	79	70	79	67	80	73	

For beamforming function:

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20

Test Software Version	Manual Tool version: 2.0.2.1						
Frequency	5180 MHz	5200 MHz	5240 MHz	5260 MHz	5300 MHz	5320 MHz	5500 MHz
MCS0/Nss1 VHT20	70	75	75	76	76	69	72
Frequency	5580 MHz	5700 MHz	5720MHz	5745 MHz	5785 MHz	5825 MHz	
MCS0/Nss1 VHT20	76	68	76	67	80	70	

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40

Test Software Version	Manual Tool version: 2.0.2.1						
Frequency	5190 MHz	5230 MHz	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz
MCS0/Nss1 VHT40	57	73	73	62	61	75	71
Frequency	5710 MHz	5755 MHz	5795 MHz				
MCS0/Nss1 VHT40	74	51	67				

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80

Test Software Version	Manual Tool version: 2.0.2.1					
Frequency	5210 MHz	5290 MHz	5530 MHz	5610 MHz	5690 MHz	5775 MHz
MCS0/Nss1 VHT80	61	63	61	80	77	48

For STBC function:

Power Parameters of IEEE 802.11n MCS0 HT20

Test Software Version	Manual Tool version: 2.0.2.1		
Frequency	5180 MHz	5200 MHz	5240 MHz
MCS0 HT20	71	100	100

3.10. EUT Operation during Test

For non-beamforming function and STBC function:

The EUT was programmed to be in continuously transmitting mode.

For beamforming function:

For Conducted Mode:

The EUT was programmed to be in continuously transmitting mode.

For Radiated Mode:

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

The program was executed as follows:

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

3.11. Duty Cycle

For non-beamforming function:

Mode	On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Minimum VBW (kHz)
802.11ac MCS0/Nss1 VHT20	1.920	1.960	97.96	0.09	0.52
802.11ac MCS0/Nss1 VHT40	0.910	0.980	92.86	0.32	1.10
802.11ac MCS0/Nss1 VHT80	0.428	0.488	87.70	0.57	2.34
802.11a	2.060	2.180	94.50	0.25	0.49

For beamforming function:

Mode	On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Minimum VBW (kHz)
802.11ac MCS0/Nss1 VHT20	4.046	4.213	96.03	0.18	0.25
802.11ac MCS0/Nss1 VHT40	2.024	2.130	95.00	0.22	0.49
802.11ac MCS0/Nss1 VHT80	1.090	1.195	91.21	0.40	0.92

For STBC function:

Mode	On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Minimum VBW (kHz)
802.11n MCS0 HT20	1.928	1.949	98.88	0.05	0.01

3.12. Maximum Conducted Output Power for original report

Non-beamforming function

Configuration IEEE 802.11ac MCS0/Nss1 VHT20

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
36	5180 MHz	16.56	16.25	19.42	24.00	Complies
40	5200 MHz	18.95	18.14	21.57	24.00	Complies
48	5240 MHz	18.81	18.17	21.51	24.00	Complies
52	5260 MHz	18.84	18.08	21.49	24.00	Complies
60	5300 MHz	18.87	18.04	21.49	24.00	Complies
64	5320 MHz	16.91	16.88	19.91	24.00	Complies
100	5500 MHz	16.41	16.35	19.39	23.79	Complies
116	5580 MHz	18.37	17.92	21.16	23.79	Complies
140	5700 MHz	16.16	15.42	18.82	23.79	Complies
144	5720 MHz	18.41	17.78	21.12	22.80	Complies
149	5745 MHz	16.07	15.91	19.00	29.79	Complies
157	5785 MHz	18.75	18.68	21.73	29.79	Complies
165	5825 MHz	16.98	16.63	19.82	29.79	Complies

Note: CH100~140 antenna gain=6.21dBi >6dBi, so limit=24 – (6.21 – 6)=23.79dBm.

CH144 antenna gain=6.21dBi >6dBi, and limit=24dBm or $11 + 10 \cdot \log(15.88) - (6.21 - 6)$
=22.80dBm < 24dBm, so limit=22.80dBm.

CH149~165 antenna gain=6.21dBi >6dBi, so limit=30 – (6.21 – 6)=29.79dBm.

Straddle channel complies with output power limit of Band 3 & Band4										
CH	26dB BW (MHz)	99% OBW (MHz)	26dB BW F1 (MHz)	99% OBW T1 (MHz)	UNII B3 BW (MHz)	UNII B4 BW (MHz)	Total Conducted Output Power (dBm)	UNII B3 Limit (dBm)	UNII B4 Limit (dBm)	Result
144	28.00	18.40	5709.12	5710.88	15.88	12.12	21.12	22.80	29.79	Complies

Note: UNII B3 antenna gain=6.21dBi >6dBi, and limit=24dBm or $11 + 10 \cdot \log(15.88) - (6.21 - 6)$
=22.80dBm < 24dBm, so limit=22.80dBm.

UNII B4 antenna gain=6.21dBi >6dBi, so limit=30 – (6.21 – 6)=29.79dBm.

Configuration IEEE 802.11ac MCS0/Nss1 VHT40

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
38	5190 MHz	14.14	13.85	17.01	24.00	Complies
46	5230 MHz	19.34	17.78	21.64	24.00	Complies
54	5270 MHz	19.28	17.54	21.51	24.00	Complies
62	5310 MHz	15.31	15.18	18.26	24.00	Complies
102	5510 MHz	13.25	13.23	16.25	23.79	Complies
110	5550 MHz	19.12	17.57	21.42	23.79	Complies
134	5670 MHz	16.85	16.32	19.60	23.79	Complies
142	5710 MHz	19.25	17.74	21.57	23.79	Complies
151	5755 MHz	12.88	12.59	15.75	29.79	Complies
159	5795 MHz	16.96	16.63	19.81	29.79	Complies

Note: UNII B3 antenna gain=6.21dBi >6dBi, so limit=24 – (6.21 – 6)=23.79dBm.

UNII B4 antenna gain=6.21dBi >6dBi, so limit=30 – (6.21 – 6)=29.79dBm.

Straddle channel complies with output power limit of Band 3 & Band4										
CH	26dB BW (MHz)	99% OBW (MHz)	26dB BW F1 (MHz)	99% OBW T1 (MHz)	UNII B3 BW (MHz)	UNII B4 BW (MHz)	Total Conducted Output Power (dBm)	UNII B3 Limit (dBm)	UNII B4 Limit (dBm)	Result
142	69.12	36.80	5672.24	5691.76	52.76	16.36	21.57	23.79	29.79	Complies

Note: UNII B3 antenna gain=6.21dBi >6dBi, so limit=24 – (6.21 – 6)=23.79dBm.

UNII B4 antenna gain=6.21dBi >6dBi, so limit=30 – (6.21 – 6)=29.79dBm.

Configuration IEEE 802.11ac MCS0/Nss1 VHT80

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
42	5210 MHz	14.37	14.31	17.35	24.00	Complies
58	5290 MHz	14.95	14.63	17.80	24.00	Complies
106	5530 MHz	13.21	13.18	16.21	23.79	Complies
122	5610 MHz	18.12	16.63	20.45	23.79	Complies
138	5690 MHz	18.52	17.61	21.10	23.79	Complies
155	5775 MHz	13.54	13.22	16.39	29.79	Complies

Note: UNII B3 antenna gain=6.21 dBi > 6dBi, so limit=24 – (6.21 – 6)=23.79dBm.

UNII B4 antenna gain=6.21 dBi > 6dBi, so limit=30 – (6.21 – 6)=29.79dBm.

Straddle channel complies with output power limit of Band 3 & Band4										
CH	26dB BW (MHz)	99% OBW (MHz)	26dB BW F1 (MHz)	99% OBW T1 (MHz)	UNII B3 BW (MHz)	UNII B4 BW (MHz)	Total Conducted Output Power (dBm)	UNII B3 Limit (dBm)	UNII B4 Limit (dBm)	Result
138	83.84	76.80	5647.76	5651.60	77.24	6.60	21.10	23.79	29.79	Complies

Note: UNII B3 antenna gain=6.21 dBi > 6dBi, so limit=24 – (6.21 – 6)=23.79dBm.

UNII B4 antenna gain=6.21 dBi > 6dBi, so limit=30 – (6.21 – 6)=29.79dBm.

Configuration IEEE 802.11a

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
36	5180 MHz	16.72	16.45	19.60	24.00	Complies
40	5200 MHz	18.83	18.31	21.59	24.00	Complies
48	5240 MHz	18.82	18.02	21.45	24.00	Complies
52	5260 MHz	18.97	18.03	21.54	24.00	Complies
60	5300 MHz	18.87	18.15	21.54	24.00	Complies
64	5320 MHz	17.05	17.04	20.06	24.00	Complies
100	5500 MHz	16.63	16.57	19.61	23.79	Complies
116	5580 MHz	18.67	17.51	21.14	23.79	Complies
140	5700 MHz	16.45	16.13	19.30	23.79	Complies
144	5720 MHz	18.52	17.78	21.18	22.75	Complies
149	5745 MHz	16.14	16.13	19.15	29.79	Complies
157	5785 MHz	18.72	18.47	21.61	29.79	Complies
165	5825 MHz	17.51	17.12	20.33	29.79	Complies

Note: CH100~140 antenna gain=6.21dBi >6dBi, so limit=24 - (6.21 - 6)=23.79dBm.

CH144 antenna gain=6.21dBi >6dBi, and limit=24dBm or $11 + 10 \cdot \log(15.72) - (6.21 - 6)$
=22.75dBm < 24dBm, so limit=22.75dBm.

CH149~165 antenna gain=6.21dBi >6dBi, so limit=30 - (6.21 - 6)=29.79dBm.

Straddle channel complies with output power limit of Band 3 & Band4										
CH	26dB BW (MHz)	99% OBW (MHz)	26dB BW F1 (MHz)	99% OBW T1 (MHz)	UNII B3 BW (MHz)	UNII B4 BW (MHz)	Total Conducted Output Power (dBm)	UNII B3 Limit (dBm)	UNII B4 Limit (dBm)	Result
144	26.88	17.92	5709.28	5711.20	15.72	11.16	21.18	22.75	29.79	Complies

Note: UNII B3 antenna gain=6.21dBi >6dBi, and limit=24dBm or $11 + 10 \cdot \log(15.88) - (6.21 - 6)$
=22.80dBm < 24dBm, so limit=22.80dBm.

UNII B4 antenna gain=6.21dBi >6dBi, so limit=30 - (6.21 - 6)=29.79dBm.

Beamforming function
Configuration IEEE 802.11ac MCS0/Nss1 VHT20

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
36	5180 MHz	17.12	17.21	20.18	21.14	Complies
40	5200 MHz	18.12	17.91	21.03	21.14	Complies
48	5240 MHz	18.17	18.01	21.10	21.14	Complies
52	5260 MHz	18.34	17.87	21.12	21.14	Complies
60	5300 MHz	18.33	17.49	20.94	21.14	Complies
64	5320 MHz	16.67	16.78	19.74	21.14	Complies
100	5500 MHz	17.01	16.95	19.99	20.78	Complies
116	5580 MHz	17.66	17.69	20.69	20.78	Complies
140	5700 MHz	16.16	15.42	18.82	20.78	Complies
144	5720 MHz	16.84	16.44	19.65	19.74	Complies
149	5745 MHz	16.07	15.91	19.00	26.78	Complies
157	5785 MHz	18.75	18.68	21.73	26.78	Complies
165	5825 MHz	16.70	16.46	19.59	26.78	Complies

Note: Directional gain = $10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$

CH36~64 directional gain=8.86dBi>6dBi, so limit=24 – (8.86 – 6)=21.14dBm.

CH100~140 directional gain=9.22dBi>6dBi, so limit=24 – (9.22 – 6)=20.78dBm.

CH144 directional gain=9.22dBi>6dBi and limit=24dBm or $11 + 10 \cdot \log(15.72) - (9.22 - 6)$
=19.73dBm<24dBm, so limit=19.74dBm.

CH149~165 directional gain=9.22dBi>6dBi, so limit=30 – (9.22 – 6)=26.78dBm.

Straddle channel complies with output power limit of Band 3 & Band4										
CH	26dB BW (MHz)	99% OBW (MHz)	26dB BW F1 (MHz)	99% OBW T1 (MHz)	UNII B3 BW (MHz)	UNII B4 BW (MHz)	Total Conducted Output Power (dBm)	UNII B3 Limit (dBm)	UNII B4 Limit (dBm)	Result
144	21.76	18.24	5709.28	5710.88	15.72	6.04	19.65	19.74	26.78	Complies

Note: Directional gain = $10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$

UNII B3 directional gain=9.22dBi>6dBi and limit=24dBm or $11 + 10 \cdot \log(15.72) - (9.22 - 6)$
=19.73dBm<24dBm, so limit=19.74dBm.

UNII B4 directional gain=9.22dBi>6dBi, so limit=30 – (9.22 – 6)=26.78dBm.

Configuration IEEE 802.11ac MCS0/Nss1 VHT40

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
38	5190 MHz	13.96	13.75	16.87	21.14	Complies
46	5230 MHz	17.81	18.13	20.98	21.14	Complies
54	5270 MHz	17.97	18.11	21.05	21.14	Complies
62	5310 MHz	15.31	15.18	18.26	21.14	Complies
102	5510 MHz	14.52	14.69	17.62	20.78	Complies
110	5550 MHz	17.59	17.80	20.71	20.78	Complies
134	5670 MHz	16.85	16.32	19.60	20.78	Complies
142	5710 MHz	17.66	17.21	20.45	20.78	Complies
151	5755 MHz	12.88	12.59	15.75	26.78	Complies
159	5795 MHz	16.77	16.55	19.67	26.78	Complies

Note: Directional gain = $10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$

UNII B1 directional gain = 8.86 dBi > 6 dBi, so limit = 24 - (8.86 - 6) = 21.14 dBm.

UNII B2 directional gain = 8.86 dBi > 6 dBi, so limit = 24 - (8.86 - 6) = 21.14 dBm.

UNII B3 directional gain = 9.22 dBi > 6 dBi, so limit = 24 - (9.22 - 6) = 20.78 dBm.

UNII B4 directional gain = 9.22 dBi > 6 dBi, so limit = 30 - (9.22 - 6) = 26.78 dBm.

Straddle channel complies with output power limit of Band 3 & Band4										
CH	26dB BW (MHz)	99% OBW (MHz)	26dB BW F1 (MHz)	99% OBW T1 (MHz)	UNII B3 BW (MHz)	UNII B4 BW (MHz)	Total Conducted Output Power (dBm)	UNII B3 Limit (dBm)	UNII B4 Limit (dBm)	Result
142	48.32	36.48	5690.16	5691.76	34.84	13.48	20.45	20.78	26.78	Complies

Note: Directional gain = $10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$

UNII B3 directional gain = 9.22 dBi > 6 dBi, so limit = 24 - (9.22 - 6) = 20.78 dBm.

UNII B4 directional gain = 9.22 dBi > 6 dBi, so limit = 30 - (9.22 - 6) = 26.78 dBm.

Configuration IEEE 802.11ac MCS0/Nss1 VHT80

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
42	5210 MHz	14.12	14.23	17.19	21.14	Complies
58	5290 MHz	14.95	14.63	17.80	21.14	Complies
106	5530 MHz	13.88	14.09	17.00	20.78	Complies
122	5610 MHz	18.12	16.63	20.45	20.78	Complies
138	5690 MHz	17.66	17.23	20.46	20.78	Complies
155	5775 MHz	11.52	11.43	14.49	26.78	Complies

Note: Directional gain = $10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$

UNII B1 directional gain = 8.86 dBi > 6 dBi, so limit = 24 - (8.86 - 6) = 21.14 dBm.

UNII B2 directional gain = 8.86 dBi > 6 dBi, so limit = 24 - (8.86 - 6) = 21.14 dBm.

UNII B3 directional gain = 9.22 dBi > 6 dBi, so limit = 24 - (9.22 - 6) = 20.78 dBm.

UNII B4 directional gain = 9.22 dBi > 6 dBi, so limit = 30 - (9.22 - 6) = 26.78 dBm.

Straddle channel complies with output power limit of Band 3 & Band 4										
CH	26dB BW (MHz)	99% OBW (MHz)	26dB BW F1 (MHz)	99% OBW T1 (MHz)	UNII B3 BW (MHz)	UNII B4 BW (MHz)	Total Conducted Output Power (dBm)	UNII B3 Limit (dBm)	UNII B4 Limit (dBm)	Result
138	110.72	76.8	5631.76	5651.60	93.24	17.48	20.46	20.78	26.78	Complies

Note: Directional gain = $10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$

UNII B3 directional gain = 9.22 dBi > 6 dBi, so limit = 24 - (9.22 - 6) = 20.78 dBm.

UNII B4 directional gain = 9.22 dBi > 6 dBi, so limit = 30 - (9.22 - 6) = 26.78 dBm.

STBC function

Configuration IEEE 802.11n MCS0 HT20

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
36	5180 MHz	17.28	17.11	20.21	24.00	Complies
40	5200 MHz	19.07	18.33	21.73	24.00	Complies
48	5240 MHz	19.24	17.58	21.50	24.00	Complies

Power table for SAR only

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Power table for SAR only

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
36	5180 MHz	14.06	13.72	16.90	24.00	Complies
40	5200 MHz	14.04	13.71	16.89	24.00	Complies
44	5220 MHz	14.11	13.78	16.96	24.00	Complies
48	5240 MHz	14.02	13.85	16.95	24.00	Complies
52	5260 MHz	13.96	13.91	16.95	24.00	Complies
56	5280 MHz	14.02	13.81	16.93	24.00	Complies
60	5300 MHz	13.89	13.86	16.89	24.00	Complies
64	5320 MHz	14.01	13.82	16.93	24.00	Complies
100	5500 MHz	13.39	13.21	16.31	23.79	Complies
104	5520 MHz	13.28	13.19	16.25	23.79	Complies
108	5540 MHz	13.36	13.32	16.35	23.79	Complies
112	5560 MHz	13.32	13.28	16.31	23.79	Complies
116	5580 MHz	13.35	13.34	16.36	23.79	Complies
120	5600 MHz	13.31	13.26	16.30	23.79	Complies
124	5620 MHz	13.44	13.42	16.44	23.79	Complies
128	5640 MHz	13.41	13.17	16.30	23.79	Complies
132	5660 MHz	13.48	13.34	16.42	23.79	Complies
136	5680 MHz	13.44	13.24	16.35	23.79	Complies
140	5700 MHz	13.65	13.16	16.42	23.79	Complies
144	5720 MHz	13.59	13.03	16.33	22.80	Complies
149	5745 MHz	14.02	13.85	16.95	29.79	Complies
153	5765 MHz	14.04	13.87	16.97	29.79	Complies
157	5785 MHz	14.07	13.71	16.90	29.79	Complies
161	5805 MHz	14.03	13.78	16.92	29.79	Complies
165	5825 MHz	13.94	13.81	16.89	29.79	Complies

Note: CH100~140 antenna gain=6.21dBi >6dBi, so limit=24 – (6.21 – 6)=23.79dBm.

CH144 antenna gain=6.21dBi >6dBi, and limit=24dBm or $11 + 10 \cdot \log(15.88) - (6.21 - 6)$
 =22.80dBm < 24dBm, so limit=22.80dBm.

CH149~165 antenna gain=6.21dBi >6dBi, so limit=30 – (6.21 – 6)=29.79dBm.

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Power table for SAR only

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
38	5190 MHz	13.89	13.86	16.89	24.00	Complies
46	5230 MHz	13.98	13.82	16.91	24.00	Complies
54	5270 MHz	13.89	13.74	16.83	24.00	Complies
62	5310 MHz	13.85	13.94	16.91	24.00	Complies
102	5510 MHz	13.25	13.23	16.25	23.79	Complies
110	5550 MHz	13.32	13.15	16.25	23.79	Complies
118	5590 MHz	13.38	13.31	16.36	23.79	Complies
126	5630 MHz	13.33	13.25	16.30	23.79	Complies
134	5670 MHz	13.41	13.22	16.33	23.79	Complies
142	5710 MHz	13.37	13.21	16.30	23.79	Complies
151	5755 MHz	12.88	12.59	15.75	29.79	Complies
159	5795 MHz	14.02	13.85	16.95	29.79	Complies

Note: UNII B3 antenna gain=6.21dBi >6dBi, so limit=24 – (6.21 – 6)=23.79dBm.

UNII B4 antenna gain=6.21dBi >6dBi, so limit=30 – (6.21 – 6)=29.79dBm.

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Power table for SAR only

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
42	5210 MHz	14.04	13.82	16.94	24.00	Complies
58	5290 MHz	13.99	13.87	16.94	24.00	Complies
106	5530 MHz	13.48	13.32	16.41	23.79	Complies
122	5610 MHz	13.45	13.23	16.35	23.79	Complies
138	5690 MHz	13.55	13.06	16.32	23.79	Complies
155	5775 MHz	13.54	13.22	16.39	29.79	Complies

Note: UNII B3 antenna gain=6.21 dBi >6dBi, so limit=24 – (6.21 – 6)=23.79dBm.

UNII B4 antenna gain=6.21 dBi >6dBi, so limit=30 – (6.21 – 6)=29.79dBm.

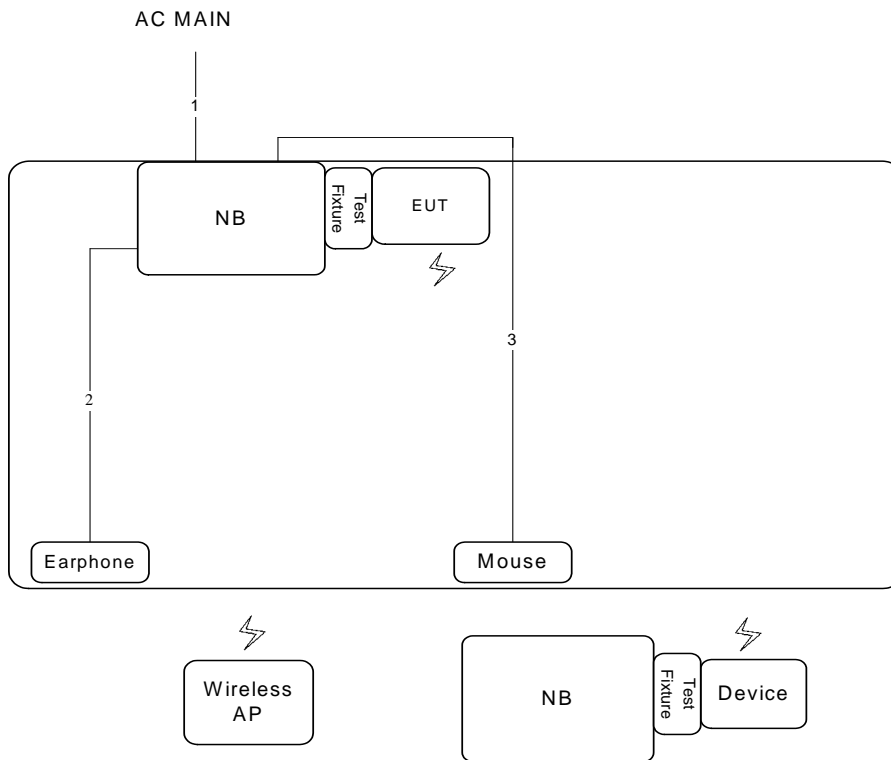
Configuration IEEE 802.11a / Power table for SAR only

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
36	5180 MHz	13.95	13.81	16.89	24.00	Complies
40	5200 MHz	13.91	13.89	16.91	24.00	Complies
44	5220 MHz	13.73	13.71	16.73	24.00	Complies
48	5240 MHz	13.94	13.83	16.90	24.00	Complies
52	5260 MHz	13.89	13.83	16.87	24.00	Complies
56	5280 MHz	14.01	13.74	16.89	24.00	Complies
60	5300 MHz	13.97	13.82	16.91	24.00	Complies
64	5320 MHz	13.83	13.79	16.82	24.00	Complies
100	5500 MHz	13.13	13.08	16.12	23.79	Complies
104	5520 MHz	13.15	13.05	16.11	23.79	Complies
108	5540 MHz	13.11	13.04	16.09	23.79	Complies
112	5560 MHz	13.12	13.07	16.11	23.79	Complies
116	5580 MHz	13.25	13.21	16.24	23.79	Complies
120	5600 MHz	13.09	13.07	16.09	23.79	Complies
124	5620 MHz	13.12	13.08	16.11	23.79	Complies
128	5640 MHz	13.15	13.08	16.13	23.79	Complies
132	5660 MHz	13.17	13.02	16.11	23.79	Complies
136	5680 MHz	13.16	13.08	16.13	23.79	Complies
140	5700 MHz	13.36	13.02	16.20	23.79	Complies
144	5720 MHz	13.17	13.04	16.12	22.80	Complies
149	5745 MHz	13.92	13.82	16.88	29.79	Complies
153	5765 MHz	13.94	13.81	16.89	29.79	Complies
157	5785 MHz	14.04	13.78	16.92	29.79	Complies
161	5805 MHz	13.85	13.73	16.80	29.79	Complies
165	5825 MHz	14.02	13.76	16.90	29.79	Complies

3.13. Test Configurations

3.13.1. Radiation Emissions Test Configuration

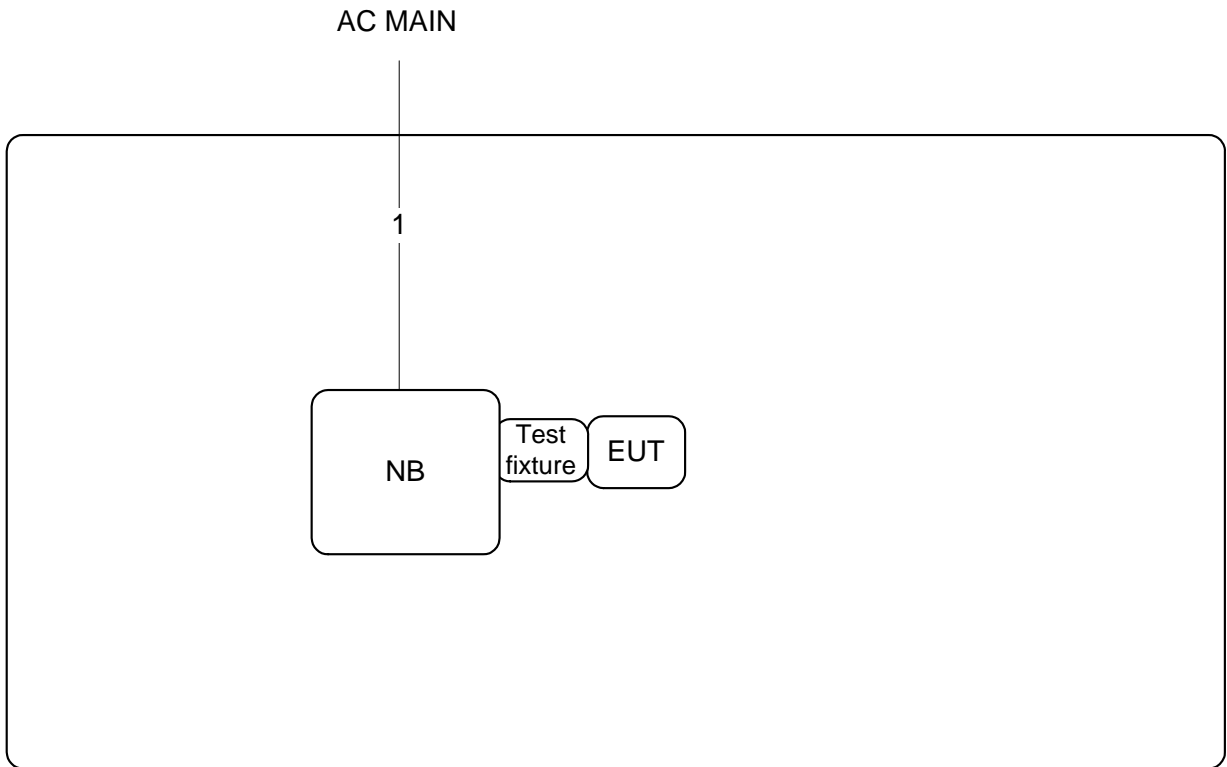
Test Configuration: 30MHz~1GHz



Item	Connection	Shielded	Length
1	Power cable	No	2.6m
2	Audio cable	No	1.1m
3	USB cable	Yes	1.8m

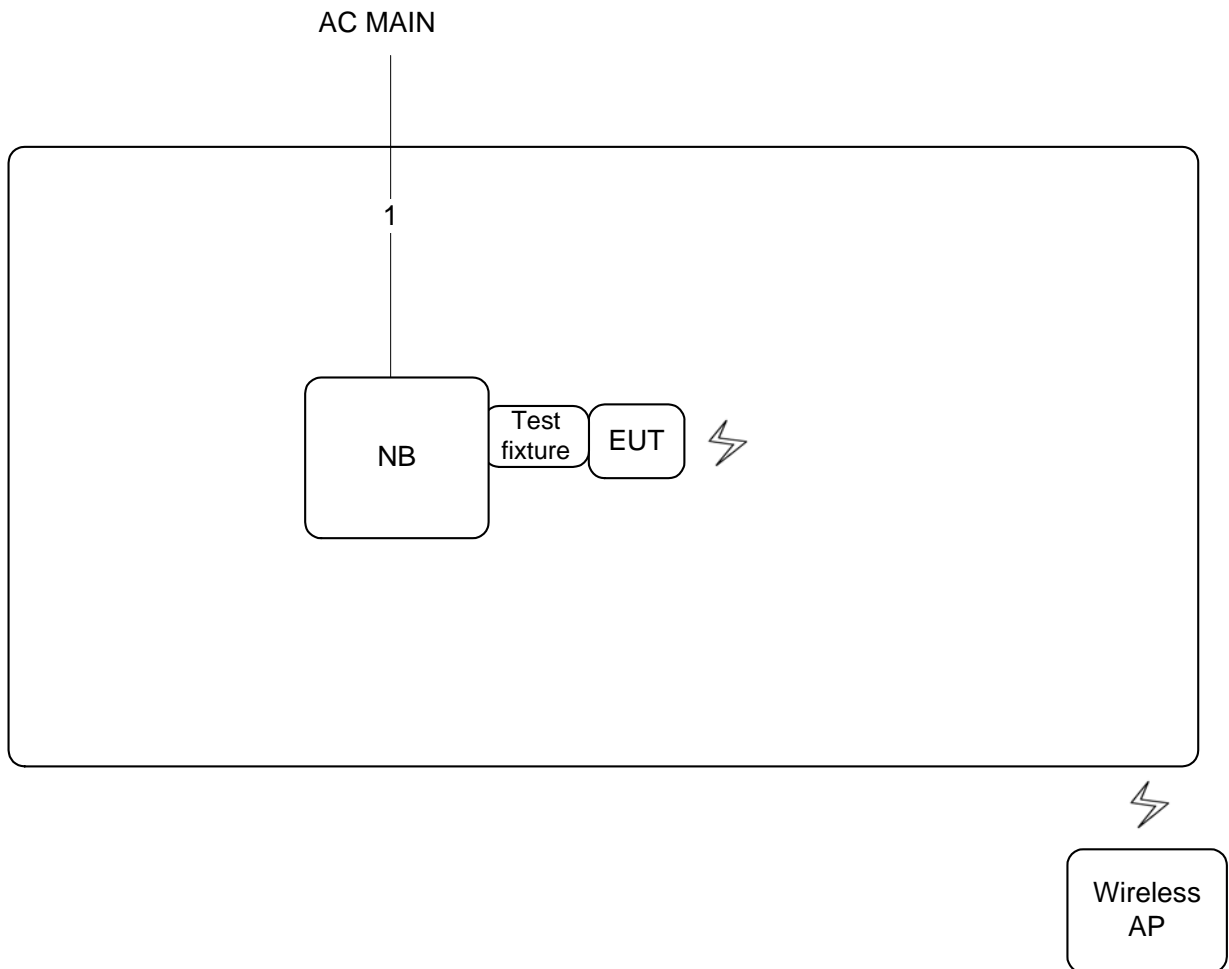
Test Configuration: above 1GHz

For non-beamforming function and STBC function:



Item	Connection	Shielded	Length
1	Power cable	No	1.8m

For beamforming function:



Item	Connection	Shielded	Length
1	Power cable	No	1.8m

4. TEST RESULT

4.1. Radiated Emissions Measurement

4.1.1. Limit

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

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

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

4.1.2. 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)	1 MHz / 3MHz for Peak, 1 MHz / 1/T for Average
RBW / VBW (Emission in non-restricted band)	1 MHz / 3MHz for peak

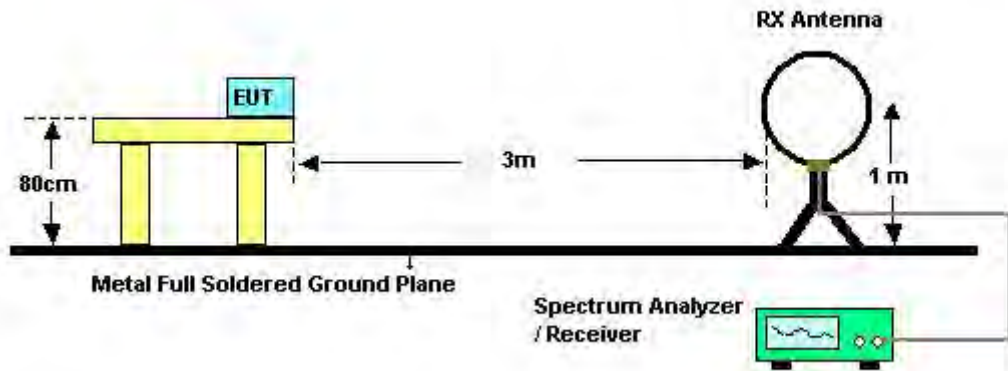
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RBW 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RBW 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RBW 120kHz for QP

4.1.3. Test Procedures

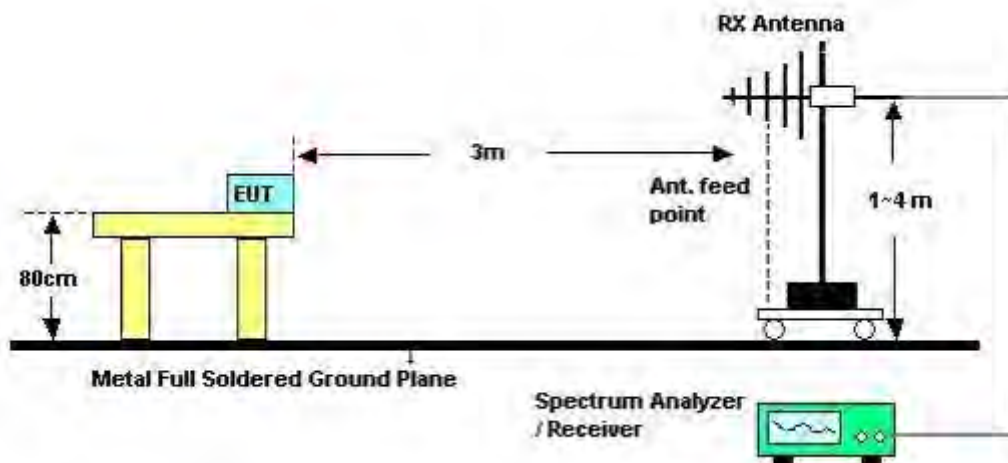
1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting 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 3MHz RBW for peak reading. Then 1MHz RBW and 1/T 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.

4.1.4. Test Setup Layout

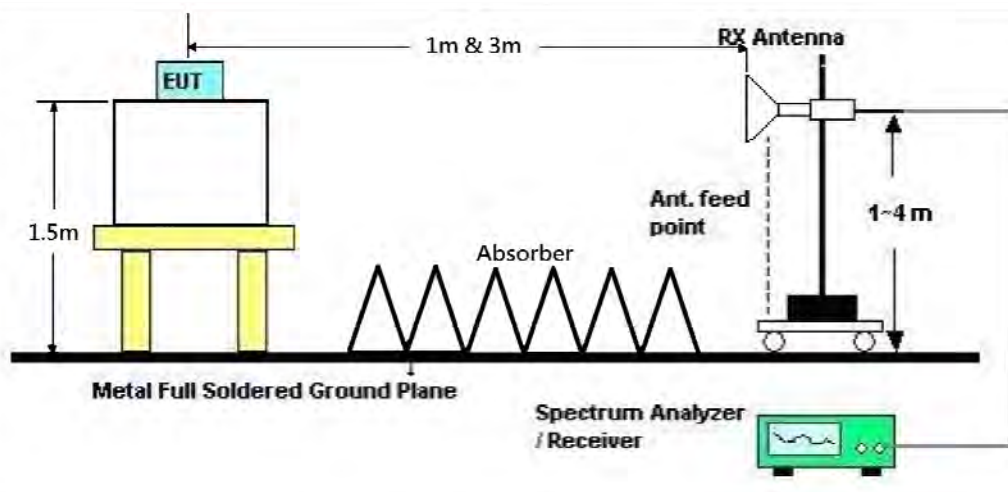
For Radiated Emissions: 9kHz ~30MHz



For Radiated Emissions: 30MHz~1GHz



For Radiated Emissions: Above 1GHz



4.1.5. Test Deviation

There is no deviation with the original standard.

4.1.6. EUT Operation during Test

For non-beamforming function and STBC function:

The EUT was programmed to be in continuously transmitting mode.

For beamforming function:

The EUT was programmed to be in beamforming transmitting mode.

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

Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	Normal Link
Test Date	May 14, 2015	Test Mode	Mode 1

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

Note:

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

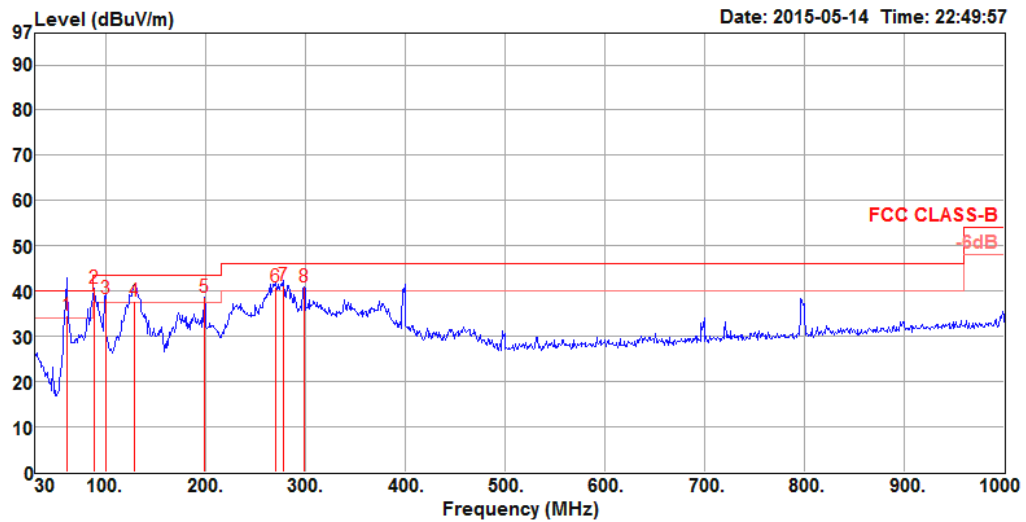
Distance extrapolation factor = $40 \log(\text{specific distance} / \text{test distance})$ (dB);

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

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

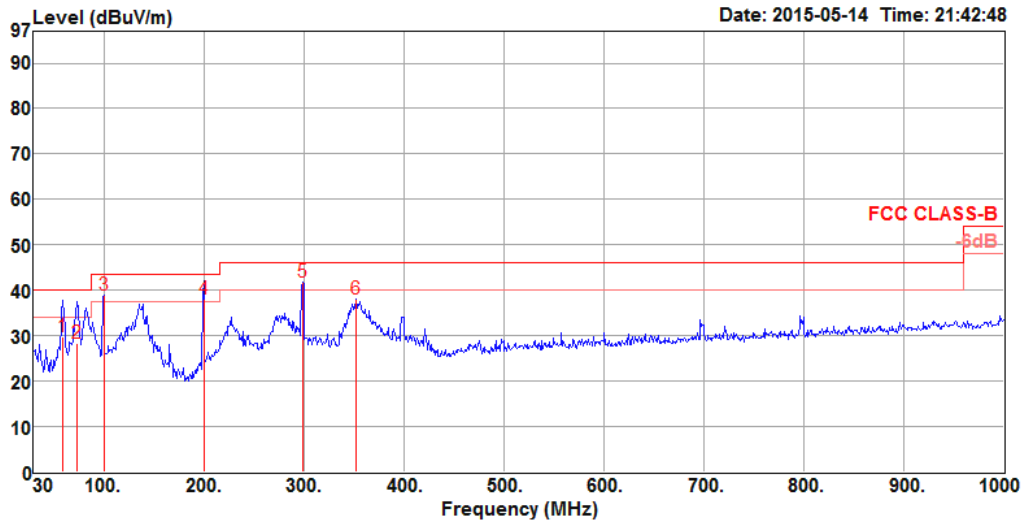
Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	Normal Link
Test Mode	Mode 1		

Horizontal



	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna		T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	Pol/Phase	deg	cm	
1	61.04	34.69	40.00	-5.31	59.60	0.79	32.50	6.80	HORIZONTAL	46	300	QP
2	88.20	40.50	43.50	-3.00	63.06	0.94	32.43	8.93	HORIZONTAL	195	400	Peak
3	99.84	38.31	43.50	-5.19	58.73	0.98	32.47	11.07	HORIZONTAL	202	400	Peak
4	128.94	37.67	43.50	-5.83	56.34	1.15	32.43	12.61	HORIZONTAL	237	150	QP
5	198.78	38.50	43.50	-5.00	59.20	1.39	32.29	10.20	HORIZONTAL	178	150	Peak
6	270.56	40.80	46.00	-5.20	57.92	1.63	32.44	13.69	HORIZONTAL	137	125	Peak
7	278.32	41.22	46.00	-4.78	58.44	1.65	32.40	13.53	HORIZONTAL	276	125	Peak
8	298.69	40.97	46.00	-5.03	57.69	1.71	32.30	13.87	HORIZONTAL	336	125	Peak

Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBUV/m	dBUV/m	dB	dBUV	dB	dB	dB/m		deg	cm	
1	59.10	29.91	40.00	-10.09	54.61	0.78	32.50	7.02	VERTICAL	124	400	QP
2	73.65	28.40	40.00	-11.60	52.85	0.87	32.41	7.09	VERTICAL	116	100	QP
3	99.84	38.80	43.50	-4.70	59.19	0.98	32.47	11.10	VERTICAL	92	300	Peak
4	199.75	38.05	43.50	-5.45	58.65	1.39	32.29	10.30	VERTICAL	69	200	Peak
5	298.69	41.88	46.00	-4.12	58.59	1.71	32.30	13.88	VERTICAL	192	150	Peak
6	352.04	38.06	46.00	-7.94	53.20	1.87	32.36	15.35	VERTICAL	4	200	Peak

Note:

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

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

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

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

Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15539.56	48.76	54.00	-5.24	32.22	12.92	34.72	38.34	HORIZONTAL	249	103	Averag
2	15541.76	62.42	74.00	-11.58	45.89	12.92	34.73	38.34	HORIZONTAL	249	103	Peak

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15532.48	62.60	74.00	-11.40	46.06	12.92	34.72	38.34	VERTICAL	272	105	Peak
2	15548.92	48.79	54.00	-5.21	32.25	12.93	34.73	38.34	VERTICAL	272	105	Averag



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 40 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15592.88	48.39	54.00	-5.61	31.92	12.95	34.75	38.27	HORIZONTAL	252	102	Averag
2	15597.32	61.92	74.00	-12.08	45.45	12.96	34.75	38.26	HORIZONTAL	252	102	Peak

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15599.68	48.45	54.00	-5.55	31.97	12.96	34.75	38.27	VERTICAL	271	104	Averag
2	15609.60	62.06	74.00	-11.94	45.64	12.96	34.75	38.21	VERTICAL	271	104	Peak



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 48 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15717.52	47.62	54.00	-6.38	31.30	13.03	34.80	38.09	HORIZONTAL	198	100	Averag
2	15728.52	61.03	74.00	-12.97	44.71	13.04	34.80	38.08	HORIZONTAL	198	100	Peak

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15718.60	47.55	54.00	-6.45	31.24	13.03	34.80	38.08	VERTICAL	228	101	Averag
2	15724.60	60.94	74.00	-13.06	44.63	13.03	34.80	38.08	VERTICAL	228	101	Peak



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 52 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15786.32	60.47	74.00	-13.53	44.22	13.07	34.82	38.00	HORIZONTAL	159	101	Peak
2	15786.80	47.73	54.00	-6.27	31.48	13.07	34.82	38.00	HORIZONTAL	159	101	Averag

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15781.08	60.93	74.00	-13.07	44.66	13.07	34.82	38.02	VERTICAL	184	102	Peak
2	15786.20	47.79	54.00	-6.21	31.59	13.07	34.82	37.95	VERTICAL	184	102	Averag



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 60 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	10513.16	59.80	74.00	-14.20	43.39	10.56	34.06	39.91	HORIZONTAL	116	101	Peak
2	10513.40	46.63	54.00	-7.37	30.23	10.56	34.07	39.91	HORIZONTAL	116	101	Averag
3	15771.52	60.86	74.00	-13.14	44.60	13.06	34.82	38.02	HORIZONTAL	135	102	Peak
4	15786.68	47.58	54.00	-6.42	31.33	13.07	34.82	38.00	HORIZONTAL	135	102	Averag

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	10513.08	59.78	74.00	-14.22	43.38	10.56	34.06	39.90	VERTICAL	130	100	Peak
2	10526.04	46.39	54.00	-7.61	30.01	10.57	34.09	39.90	VERTICAL	130	100	Averag
3	15782.24	47.79	54.00	-6.21	31.59	13.07	34.82	37.95	VERTICAL	145	104	Averag
4	15787.80	60.84	74.00	-13.16	44.65	13.07	34.83	37.95	VERTICAL	145	104	Peak



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 64 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	10637.28	46.66	54.00	-7.34	30.38	10.61	34.31	39.98	HORIZONTAL	163	102	Averag
2	10646.28	59.47	74.00	-14.53	43.20	10.61	34.33	39.99	HORIZONTAL	163	102	Peak
3	15950.84	49.12	54.00	-4.88	33.07	13.17	34.89	37.77	HORIZONTAL	126	102	Averag
4	15965.24	62.55	74.00	-11.45	46.52	13.18	34.90	37.75	HORIZONTAL	126	102	Peak

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	10642.04	46.35	54.00	-7.65	30.08	10.61	34.32	39.98	VERTICAL	102	100	Averag
2	10643.64	59.96	74.00	-14.04	43.69	10.61	34.32	39.98	VERTICAL	102	100	Peak
3	15950.16	49.45	54.00	-4.55	33.41	13.17	34.89	37.76	VERTICAL	130	104	Averag
4	15957.68	62.27	74.00	-11.73	46.23	13.17	34.89	37.76	VERTICAL	130	104	Peak



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 100 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	10998.00	59.55	74.00	-14.45	43.62	10.74	35.01	40.20	HORIZONTAL	166	102	Peak
2	10998.24	45.94	54.00	-8.06	30.01	10.74	35.01	40.20	HORIZONTAL	166	102	Averag

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	10990.80	46.05	54.00	-7.95	30.12	10.74	34.99	40.18	VERTICAL	176	100	Averag
2	11002.60	59.18	74.00	-14.82	43.25	10.74	35.01	40.20	VERTICAL	176	100	Peak



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 116 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11155.80	45.79	54.00	-8.21	29.87	10.83	35.02	40.11	HORIZONTAL	194	106	Averag
2	11165.92	59.57	74.00	-14.43	43.65	10.84	35.02	40.10	HORIZONTAL	194	106	Peak

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11155.76	59.04	74.00	-14.96	43.11	10.83	35.02	40.12	VERTICAL	172	105	Peak
2	11160.20	45.69	54.00	-8.31	29.77	10.84	35.02	40.10	VERTICAL	172	105	Averag



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 140 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11153.24	45.41	54.00	-8.59	29.49	10.83	35.02	40.11	HORIZONTAL	212	110	Averag
2	11154.64	58.35	74.00	-15.65	42.43	10.83	35.02	40.11	HORIZONTAL	212	110	Peak

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11150.88	58.86	74.00	-15.14	42.93	10.83	35.02	40.12	VERTICAL	204	104	Peak
2	11156.72	45.24	54.00	-8.76	29.32	10.84	35.02	40.10	VERTICAL	204	104	Averag



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 144 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11436.60	60.14	74.00	-13.86	44.23	11.00	35.03	39.94	HORIZONTAL	197	102	Peak
2	11436.84	46.82	54.00	-7.18	30.91	11.00	35.03	39.94	HORIZONTAL	197	102	Averag

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11432.00	60.28	74.00	-13.72	44.37	11.00	35.03	39.94	VERTICAL	190	103	Peak
2	11435.88	46.87	54.00	-7.13	30.96	11.00	35.03	39.94	VERTICAL	190	103	Averag



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11484.04	59.26	74.00	-14.74	43.35	11.03	35.03	39.91	HORIZONTAL	190	101	Peak
2	11494.16	45.75	54.00	-8.25	29.84	11.04	35.03	39.90	HORIZONTAL	190	101	Averag

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11480.76	59.89	74.00	-14.11	43.97	11.03	35.03	39.92	VERTICAL	197	102	Peak
2	11483.88	45.94	54.00	-8.06	30.04	11.03	35.03	39.90	VERTICAL	197	102	Averag



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11561.48	45.40	54.00	-8.60	29.59	11.07	35.03	39.77	HORIZONTAL	179	101	Averag
2	11561.72	58.66	74.00	-15.34	42.85	11.07	35.03	39.77	HORIZONTAL	179	101	Peak

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11560.92	45.78	54.00	-8.22	29.98	11.06	35.03	39.77	VERTICAL	199	102	Averag
2	11579.96	58.67	74.00	-15.33	42.86	11.07	35.03	39.77	VERTICAL	199	102	Peak



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11649.32	45.00	54.00	-9.00	29.34	11.10	35.04	39.60	HORIZONTAL	206	100	Averag
2	11656.00	58.61	74.00	-15.39	42.97	11.10	35.04	39.58	HORIZONTAL	206	100	Peak

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11642.08	45.03	54.00	-8.97	29.34	11.10	35.04	39.63	VERTICAL	216	102	Averag
2	11653.60	58.57	74.00	-15.43	42.94	11.10	35.04	39.57	VERTICAL	216	102	Peak



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15562.04	61.95	74.00	-12.05	45.44	12.93	34.73	38.31	HORIZONTAL	171	102	Peak
2	15564.60	48.93	54.00	-5.07	32.42	12.93	34.73	38.31	HORIZONTAL	171	102	Averag

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15563.36	61.83	74.00	-12.17	45.36	12.93	34.73	38.27	VERTICAL	181	101	Peak
2	15564.64	49.08	54.00	-4.92	32.61	12.93	34.73	38.27	VERTICAL	181	101	Averag



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15680.64	61.01	74.00	-12.99	44.64	13.01	34.78	38.14	HORIZONTAL	142	102	Peak
2	15699.16	47.81	54.00	-6.19	31.46	13.02	34.79	38.12	HORIZONTAL	142	102	Averag

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15688.56	60.41	74.00	-13.59	44.04	13.01	34.79	38.15	VERTICAL	149	100	Peak
2	15689.60	47.82	54.00	-6.18	31.45	13.01	34.79	38.15	VERTICAL	149	100	Averag



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 54 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15808.40	47.84	54.00	-6.16	31.62	13.08	34.83	37.97	HORIZONTAL	126	102	Averag
2	15809.64	61.60	74.00	-12.40	45.38	13.09	34.83	37.96	HORIZONTAL	126	102	Peak

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15800.84	61.75	74.00	-12.25	45.55	13.08	34.83	37.95	VERTICAL	136	100	Peak
2	15802.88	47.96	54.00	-6.04	31.76	13.08	34.83	37.95	VERTICAL	136	100	Averag



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 62 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	10622.28	46.49	54.00	-7.51	30.20	10.60	34.28	39.97	HORIZONTAL	90	106	Averag
2	10628.52	60.54	74.00	-13.46	44.24	10.61	34.29	39.98	HORIZONTAL	90	106	Peak
3	15932.36	62.07	74.00	-11.93	46.00	13.16	34.88	37.79	HORIZONTAL	107	103	Peak
4	15936.32	49.17	54.00	-4.83	33.10	13.16	34.88	37.79	HORIZONTAL	107	103	Averag

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	10616.16	46.41	54.00	-7.59	30.12	10.60	34.27	39.96	VERTICAL	138	102	Averag
2	10625.88	59.18	74.00	-14.82	42.88	10.61	34.29	39.98	VERTICAL	138	102	Peak
3	15923.60	62.38	74.00	-11.62	46.35	13.15	34.88	37.76	VERTICAL	119	103	Peak
4	15933.64	49.06	54.00	-4.94	33.02	13.16	34.88	37.76	VERTICAL	119	103	Averag



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 102 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11019.68	59.40	74.00	-14.60	43.47	10.75	35.01	40.19	HORIZONTAL	117	102	Peak
2	11023.52	45.88	54.00	-8.12	29.95	10.75	35.01	40.19	HORIZONTAL	117	102	Averag

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11010.28	45.87	54.00	-8.13	29.93	10.75	35.01	40.20	VERTICAL	80	104	Averag
2	11016.56	58.96	74.00	-15.04	43.02	10.75	35.01	40.20	VERTICAL	80	104	Peak



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 110 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11091.44	45.92	54.00	-8.08	29.99	10.80	35.01	40.14	HORIZONTAL	127	102	Averag
2	11108.20	58.70	74.00	-15.30	42.77	10.81	35.01	40.13	HORIZONTAL	127	102	Peak

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11095.88	46.56	54.00	-7.44	30.63	10.80	35.01	40.14	VERTICAL	132	102	Averag
2	11099.92	58.75	74.00	-15.25	42.82	10.80	35.01	40.14	VERTICAL	132	102	Peak



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 134 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11341.48	46.48	54.00	-7.52	30.56	10.95	35.02	39.99	HORIZONTAL	155	102	Averag
2	11349.64	60.29	74.00	-13.71	44.37	10.95	35.02	39.99	HORIZONTAL	155	102	Peak

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11337.72	46.49	54.00	-7.51	30.57	10.94	35.02	40.00	VERTICAL	107	100	Averag
2	11347.08	59.80	74.00	-14.20	43.87	10.95	35.02	40.00	VERTICAL	107	100	Peak



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 142 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11408.80	59.85	74.00	-14.15	43.94	10.99	35.03	39.95	HORIZONTAL	178	100	Peak
2	11418.50	47.50	54.00	-6.50	31.59	10.99	35.03	39.95	HORIZONTAL	178	100	Averag

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11420.80	47.92	54.00	-6.08	32.02	10.99	35.03	39.94	VERTICAL	149	101	Averag
2	11430.30	61.19	74.00	-12.81	45.28	11.00	35.03	39.94	VERTICAL	149	101	Peak



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11492.60	58.54	74.00	-15.46	42.63	11.04	35.03	39.90	HORIZONTAL	220	104	Peak
2	11494.20	45.99	54.00	-8.01	30.08	11.04	35.03	39.90	HORIZONTAL	220	104	Averag

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11493.20	46.14	54.00	-7.86	30.23	11.04	35.03	39.90	VERTICAL	200	102	Averag
2	11500.40	58.79	74.00	-15.21	42.88	11.04	35.03	39.90	VERTICAL	200	102	Peak



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11597.60	45.46	54.00	-8.54	29.71	11.08	35.03	39.70	HORIZONTAL	271	104	Averag
2	11600.80	58.63	74.00	-15.37	42.89	11.08	35.03	39.69	HORIZONTAL	271	104	Peak

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11589.70	58.74	74.00	-15.26	42.99	11.08	35.03	39.70	VERTICAL	255	105	Peak
2	11593.60	45.46	54.00	-8.54	29.71	11.08	35.03	39.70	VERTICAL	255	105	Averag



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15612.90	48.55	54.00	-5.45	32.10	12.96	34.75	38.24	HORIZONTAL	281	101	Averag
2	15617.60	61.81	74.00	-12.19	45.37	12.97	34.76	38.23	HORIZONTAL	281	101	Peak

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15624.60	48.66	54.00	-5.34	32.24	12.97	34.76	38.21	VERTICAL	292	102	Averag
2	15642.60	61.32	74.00	-12.68	44.90	12.98	34.77	38.21	VERTICAL	292	102	Peak



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 58 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15876.70	48.77	54.00	-5.23	32.63	13.13	34.86	37.87	HORIZONTAL	243	100	Averag
2	15888.70	62.04	74.00	-11.96	45.93	13.13	34.87	37.85	HORIZONTAL	243	100	Peak

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15885.00	48.85	54.00	-5.15	32.75	13.13	34.86	37.83	VERTICAL	252	100	Averag
2	15886.10	61.44	74.00	-12.56	45.34	13.13	34.86	37.83	VERTICAL	252	100	Peak



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 106 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11039.60	58.96	74.00	-15.04	43.03	10.76	35.01	40.18	HORIZONTAL	221	104	Peak
2	11040.60	46.12	54.00	-7.88	30.19	10.76	35.01	40.18	HORIZONTAL	221	104	Averag

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11047.40	46.06	54.00	-7.94	30.12	10.77	35.01	40.18	VERTICAL	228	103	Averag
2	11070.70	58.82	74.00	-15.18	42.89	10.78	35.01	40.16	VERTICAL	228	103	Peak



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 122 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11213.70	59.41	74.00	-14.59	43.49	10.87	35.02	40.07	HORIZONTAL	198	101	Peak
2	11239.40	46.12	54.00	-7.88	30.20	10.89	35.02	40.05	HORIZONTAL	198	101	Averag

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11229.90	59.31	74.00	-14.69	43.39	10.88	35.02	40.06	VERTICAL	210	102	Peak
2	11230.70	45.79	54.00	-8.21	29.87	10.88	35.02	40.06	VERTICAL	210	102	Averag



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 138 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11380.08	59.52	74.00	-14.48	43.61	10.97	35.03	39.97	HORIZONTAL	176	102	Peak
2	11385.32	46.65	54.00	-7.35	30.74	10.97	35.03	39.97	HORIZONTAL	176	102	Averag

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11388.40	60.40	74.00	-13.60	44.50	10.97	35.03	39.96	VERTICAL	191	100	Peak
2	11389.32	46.74	54.00	-7.26	30.84	10.97	35.03	39.96	VERTICAL	191	100	Averag



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Chain 1 + Chain 2
Test Date	May 11, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11543.12	59.13	74.00	-14.87	43.29	11.06	35.03	39.81	HORIZONTAL	146	104	Peak
2	11556.52	45.60	54.00	-8.40	29.79	11.06	35.03	39.78	HORIZONTAL	146	104	Averag

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	11544.04	45.68	54.00	-8.32	29.82	11.06	35.03	39.83	VERTICAL	157	100	Averag
2	11556.96	59.66	74.00	-14.34	43.86	11.06	35.03	39.77	VERTICAL	157	100	Peak



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11a CH 36 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15534.64	44.66	54.00	-9.34	30.85	10.77	38.15	35.11	Average	100	109	HORIZONTAL
2	15540.24	59.16	74.00	-14.84	45.38	10.77	38.12	35.11	Peak	100	109	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15548.00	45.07	54.00	-8.93	31.29	10.78	38.12	35.12	Average	100	42	VERTICAL
2	15549.64	58.63	74.00	-15.37	44.85	10.78	38.12	35.12	Peak	100	42	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11a CH 40 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15596.24	58.83	74.00	-15.17	45.14	10.78	38.04	35.13	Peak	100	144	HORIZONTAL
2	15602.92	45.57	54.00	-8.43	31.90	10.78	38.04	35.15	Average	100	144	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15591.12	59.37	74.00	-14.63	45.68	10.78	38.04	35.13	Peak	100	204	VERTICAL
2	15603.24	45.71	54.00	-8.29	32.04	10.78	38.04	35.15	Average	100	204	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11a CH 48 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15710.12	58.74	74.00	-15.26	45.29	10.79	37.85	35.19	Peak	100	93	HORIZONTAL
2	15719.20	45.31	54.00	-8.69	31.86	10.79	37.85	35.19	Average	100	93	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15710.28	58.14	74.00	-15.86	44.69	10.79	37.85	35.19	Peak	100	32	VERTICAL
2	15715.48	45.48	54.00	-8.52	32.03	10.79	37.85	35.19	Average	100	32	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11a CH 52 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15772.72	45.29	54.00	-8.71	31.94	10.80	37.77	35.22	Average	100	207	HORIZONTAL
2	15778.04	57.71	74.00	-16.29	44.39	10.80	37.75	35.23	Peak	100	207	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15776.96	45.31	54.00	-8.69	31.98	10.80	37.75	35.22	Average	100	101	VERTICAL
2	15785.12	57.54	74.00	-16.46	44.22	10.80	37.75	35.23	Peak	100	101	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11a CH 60 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

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	10596.48	42.19	54.00	-11.81	28.58	8.62	39.90	34.91	Average	100	231	HORIZONTAL
2	10603.64	54.55	74.00	-19.45	40.91	8.64	39.90	34.90	Peak	100	231	HORIZONTAL
3	15901.12	44.79	54.00	-9.21	31.69	10.81	37.56	35.27	Average	100	92	HORIZONTAL
4	15904.36	57.71	74.00	-16.29	44.61	10.81	37.56	35.27	Peak	100	92	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10594.88	55.82	74.00	-18.18	42.20	8.62	39.91	34.91	Peak	100	23	VERTICAL
2	10600.32	42.47	54.00	-11.53	28.84	8.64	39.90	34.91	Average	100	23	VERTICAL
3	15908.64	57.88	74.00	-16.12	44.80	10.81	37.56	35.29	Peak	100	94	VERTICAL
4	15909.96	44.64	54.00	-9.36	31.56	10.81	37.56	35.29	Average	100	94	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11a CH 64 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

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	10628.76	45.59	54.00	-8.41	31.94	8.65	39.88	34.88	Average	100	122	HORIZONTAL
2	10628.96	58.42	74.00	-15.58	44.77	8.65	39.88	34.88	Peak	100	122	HORIZONTAL
3	15920.76	58.34	74.00	-15.66	45.29	10.81	37.53	35.29	Peak	100	217	HORIZONTAL
4	15928.76	45.01	54.00	-8.99	31.96	10.81	37.53	35.29	Average	100	217	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	10611.20	42.00	54.00	-12.00	28.36	8.64	39.90	34.90	Average	100	62	VERTICAL
2	10628.96	58.42	74.00	-15.58	44.77	8.65	39.88	34.88	Peak	100	62	VERTICAL
3	15911.20	43.81	54.00	-10.19	30.73	10.81	37.56	35.29	Average	100	309	VERTICAL
4	15928.96	57.84	74.00	-16.16	44.79	10.81	37.53	35.29	Peak	100	309	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11a CH 100 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10794.16	55.78	74.00	-18.22	42.11	8.78	39.71	34.82	Peak	100	108	HORIZONTAL
2	10802.52	42.33	54.00	-11.67	28.67	8.79	39.69	34.82	Average	100	108	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10807.24	42.60	54.00	-11.40	28.93	8.79	39.69	34.81	Average	100	92	VERTICAL
2	10808.88	55.42	74.00	-18.58	41.75	8.79	39.69	34.81	Peak	100	92	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11a CH 116 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10875.36	42.86	54.00	-11.14	29.19	8.84	39.62	34.79	Average	100	244	HORIZONTAL
2	10889.32	55.81	74.00	-18.19	42.13	8.85	39.60	34.77	Peak	100	244	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10883.24	43.06	54.00	-10.94	29.37	8.84	39.62	34.77	Average	100	97	VERTICAL
2	10888.64	55.55	74.00	-18.45	41.87	8.85	39.60	34.77	Peak	100	97	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11a CH 140 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10991.00	42.57	54.00	-11.43	28.87	8.93	39.50	34.73	Average	100	191	HORIZONTAL
2	11004.52	56.35	74.00	-17.65	42.64	8.94	39.50	34.73	Peak	100	191	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10990.00	42.56	54.00	-11.44	28.86	8.93	39.50	34.73	Average	100	132	VERTICAL
2	11005.80	54.68	74.00	-19.32	40.97	8.94	39.50	34.73	Peak	100	132	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11a CH 144 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11010.36	42.23	54.00	-11.77	28.52	8.94	39.50	34.73	Average	100	184	HORIZONTAL
2	11014.84	55.83	74.00	-18.17	42.12	8.94	39.50	34.73	Peak	100	184	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11010.96	55.97	74.00	-18.03	42.26	8.94	39.50	34.73	Peak	100	196	VERTICAL
2	11026.48	41.84	54.00	-12.16	28.12	8.95	39.50	34.73	Average	100	196	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11a CH 149 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11036.36	56.33	74.00	-17.67	42.61	8.95	39.50	34.73	Peak	100	229	HORIZONTAL
2	11051.24	42.52	54.00	-11.48	28.79	8.96	39.50	34.73	Average	100	229	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11039.28	55.61	74.00	-18.39	41.88	8.96	39.50	34.73	Peak	100	112	VERTICAL
2	11046.12	42.32	54.00	-11.68	28.59	8.96	39.50	34.73	Average	100	112	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11a CH 157 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11078.80	43.00	54.00	-11.00	29.25	8.98	39.50	34.73	Average	100	88	HORIZONTAL
2	11083.56	56.19	74.00	-17.81	42.44	8.98	39.50	34.73	Peak	100	88	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11076.36	55.43	74.00	-18.57	41.68	8.98	39.50	34.73	Peak	100	195	VERTICAL
2	11095.00	42.86	54.00	-11.14	29.10	8.99	39.50	34.73	Average	100	195	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11a CH 165 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11115.16	42.61	54.00	-11.39	28.85	9.00	39.50	34.74	Average	100	254	HORIZONTAL
2	11115.40	56.42	74.00	-17.58	42.66	9.00	39.50	34.74	Peak	100	254	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11116.40	42.73	54.00	-11.27	28.97	9.00	39.50	34.74	Average	100	0	VERTICAL
2	11132.44	54.88	74.00	-19.12	41.10	9.02	39.50	34.74	Peak	100	0	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15535.43	46.67	54.00	-7.33	31.70	10.77	39.31	35.11	Average	195	143	HORIZONTAL
2	15536.41	59.46	74.00	-14.54	44.49	10.77	39.31	35.11	Peak	195	143	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15533.75	48.56	54.00	-5.44	33.59	10.77	39.31	35.11	Average	176	189	VERTICAL
2	15540.06	59.85	74.00	-14.15	44.88	10.77	39.31	35.11	Peak	176	189	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 40 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15600.63	45.55	54.00	-8.45	30.58	10.78	39.34	35.15	Average	150	213	HORIZONTAL
2	15600.74	58.68	74.00	-15.32	43.71	10.78	39.34	35.15	Peak	150	213	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15599.97	44.99	54.00	-9.01	30.02	10.78	39.34	35.15	Average	150	342	VERTICAL
2	15600.68	58.34	74.00	-15.66	43.37	10.78	39.34	35.15	Peak	150	342	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 48 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15718.64	59.84	74.00	-14.16	44.85	10.79	39.39	35.19	Peak	164	179	HORIZONTAL
2	15724.05	46.88	54.00	-7.12	31.89	10.79	39.39	35.19	Average	164	179	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15716.82	60.58	74.00	-13.42	45.59	10.79	39.39	35.19	Peak	151	162	VERTICAL
2	15723.73	46.97	54.00	-7.03	31.98	10.79	39.39	35.19	Average	151	162	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 52 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15772.18	47.00	54.00	-7.00	32.01	10.80	39.41	35.22	Average	179	228	HORIZONTAL
2	15779.51	59.85	74.00	-14.15	44.87	10.80	39.41	35.23	Peak	179	228	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15771.98	47.10	54.00	-6.90	32.11	10.80	39.41	35.22	Average	186	208	VERTICAL
2	15788.80	60.13	74.00	-13.87	45.14	10.80	39.42	35.23	Peak	186	208	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 60 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10604.92	57.76	74.00	-16.24	44.24	8.64	39.78	34.90	Peak	168	185	HORIZONTAL
2	10606.54	44.19	54.00	-9.81	30.67	8.64	39.78	34.90	Average	168	185	HORIZONTAL
3	15906.89	59.23	74.00	-14.77	44.24	10.81	39.47	35.29	Peak	184	208	HORIZONTAL
4	15908.65	46.52	54.00	-7.48	31.53	10.81	39.47	35.29	Average	184	208	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10598.38	56.65	74.00	-17.35	43.14	8.64	39.78	34.91	Peak	168	212	VERTICAL
2	10602.00	44.03	54.00	-9.97	30.51	8.64	39.78	34.90	Average	168	212	VERTICAL
3	15905.64	59.03	74.00	-14.97	44.04	10.81	39.47	35.29	Peak	183	194	VERTICAL
4	15906.28	46.94	54.00	-7.06	31.95	10.81	39.47	35.29	Average	183	194	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 64 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10631.58	56.51	74.00	-17.49	42.96	8.66	39.77	34.88	Peak	196	206	HORIZONTAL
2	10635.92	44.35	54.00	-9.65	30.80	8.66	39.77	34.88	Average	196	206	HORIZONTAL
3	15950.10	59.80	74.00	-14.20	44.81	10.82	39.48	35.30	Peak	176	176	HORIZONTAL
4	15969.81	46.50	54.00	-7.50	31.50	10.82	39.49	35.31	Average	176	176	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10636.67	44.19	54.00	-9.81	30.64	8.66	39.77	34.88	Average	175	202	VERTICAL
2	10644.11	56.93	74.00	-17.07	43.38	8.66	39.77	34.88	Peak	175	202	VERTICAL
3	15964.31	61.02	74.00	-12.98	46.02	10.82	39.49	35.31	Peak	184	184	VERTICAL
4	15969.26	48.47	54.00	-5.53	33.47	10.82	39.49	35.31	Average	184	184	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 100 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10997.25	43.37	54.00	-10.63	29.47	8.93	39.70	34.73	Average	206	182	HORIZONTAL
2	10997.95	56.71	74.00	-17.29	42.81	8.93	39.70	34.73	Peak	206	182	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10992.18	58.22	74.00	-15.78	44.32	8.93	39.70	34.73	Peak	190	166	VERTICAL
2	10998.18	45.40	54.00	-8.60	31.50	8.93	39.70	34.73	Average	190	166	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 116 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11152.21	58.11	74.00	-15.89	43.94	9.03	39.88	34.74	Peak	168	215	HORIZONTAL
2	11169.58	43.83	54.00	-10.17	29.63	9.04	39.90	34.74	Average	168	215	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11155.28	57.82	74.00	-16.18	43.65	9.03	39.88	34.74	Peak	189	240	VERTICAL
2	11164.49	44.82	54.00	-9.18	30.62	9.04	39.90	34.74	Average	189	240	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 140 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11399.62	43.90	54.00	-10.10	29.28	9.19	40.18	34.75	Average	180	136	HORIZONTAL
2	11405.21	56.85	74.00	-17.15	42.23	9.19	40.18	34.75	Peak	180	136	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11392.68	44.90	54.00	-9.10	30.31	9.18	40.16	34.75	Average	204	191	VERTICAL
2	11404.31	57.64	74.00	-16.36	43.02	9.19	40.18	34.75	Peak	204	191	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 144 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11441.45	56.76	74.00	-17.24	42.08	9.21	40.22	34.75	Peak	190	166	HORIZONTAL
2	11442.55	43.94	54.00	-10.06	29.26	9.21	40.22	34.75	Average	190	166	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11440.12	45.99	54.00	-8.01	31.31	9.21	40.22	34.75	Average	168	176	VERTICAL
2	11449.81	59.16	74.00	-14.84	44.45	9.22	40.24	34.75	Peak	168	176	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11486.32	44.04	54.00	-9.96	29.27	9.24	40.28	34.75	Average	191	187	HORIZONTAL
2	11488.87	56.67	74.00	-17.33	41.90	9.24	40.28	34.75	Peak	191	187	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11490.58	45.18	54.00	-8.82	30.41	9.24	40.28	34.75	Average	209	207	VERTICAL
2	11493.91	57.36	74.00	-16.64	42.59	9.24	40.28	34.75	Peak	209	207	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11565.02	44.22	54.00	-9.78	29.45	9.26	40.27	34.76	Average	187	157	HORIZONTAL
2	11567.11	59.43	74.00	-14.57	44.67	9.26	40.26	34.76	Peak	187	157	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11562.59	45.24	54.00	-8.76	30.47	9.26	40.27	34.76	Average	205	134	VERTICAL
2	11563.46	57.96	74.00	-16.04	43.19	9.26	40.27	34.76	Peak	205	134	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11649.94	44.94	54.00	-9.06	30.22	9.28	40.22	34.78	Average	149	139	HORIZONTAL
2	11650.96	57.33	74.00	-16.67	42.62	9.28	40.21	34.78	Peak	149	139	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11648.84	45.90	54.00	-8.10	31.18	9.28	40.22	34.78	Average	159	119	VERTICAL
2	11651.91	59.10	74.00	-14.90	44.39	9.28	40.21	34.78	Peak	159	119	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15561.29	59.25	74.00	-14.75	44.26	10.78	39.33	35.12	Peak	160	163	HORIZONTAL
2	15564.18	46.32	54.00	-7.68	31.33	10.78	39.33	35.12	Average	160	163	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15571.33	48.32	54.00	-5.68	33.33	10.78	39.33	35.12	Average	174	182	VERTICAL
2	15575.01	61.32	74.00	-12.68	46.34	10.78	39.33	35.13	Peak	174	182	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15688.12	46.66	54.00	-7.34	31.67	10.79	39.38	35.18	Average	173	207	HORIZONTAL
2	15694.57	60.67	74.00	-13.33	45.68	10.79	39.38	35.18	Peak	173	207	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15686.84	61.64	74.00	-12.36	46.65	10.79	39.38	35.18	Peak	150	191	VERTICAL
2	15696.51	47.80	54.00	-6.20	32.81	10.79	39.38	35.18	Average	150	191	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 54 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15812.11	47.21	54.00	-6.79	32.23	10.80	39.42	35.24	Average	173	189	HORIZONTAL
2	15812.89	60.08	74.00	-13.92	45.10	10.80	39.42	35.24	Peak	173	189	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15805.14	60.05	74.00	-13.95	45.07	10.80	39.42	35.24	Peak	173	203	VERTICAL
2	15809.42	47.45	54.00	-6.55	32.47	10.80	39.42	35.24	Average	173	203	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 62 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10615.01	43.48	54.00	-10.52	29.95	8.65	39.78	34.90	Average	173	71	HORIZONTAL
2	10623.71	51.62	74.00	-22.38	38.09	8.65	39.78	34.90	Peak	173	71	HORIZONTAL
3	15929.00	59.04	74.00	-14.96	44.05	10.81	39.47	35.29	Peak	173	121	HORIZONTAL
4	15931.25	46.38	54.00	-7.62	31.40	10.81	39.47	35.30	Average	173	121	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10618.70	43.98	54.00	-10.02	30.45	8.65	39.78	34.90	Average	173	175	VERTICAL
2	10625.90	56.75	74.00	-17.25	43.22	8.65	39.78	34.90	Peak	173	175	VERTICAL
3	15926.96	48.53	54.00	-5.47	33.54	10.81	39.47	35.29	Average	173	221	VERTICAL
4	15927.84	61.26	74.00	-12.74	46.27	10.81	39.47	35.29	Peak	173	221	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 102 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	cm	deg		
1	11018.93	43.40	54.00	-10.60	29.47	8.94	39.72	34.73	Average	173	24	HORIZONTAL
2	11024.24	55.89	74.00	-18.11	41.93	8.95	39.74	34.73	Peak	173	24	HORIZONTAL
3	16525.31	58.96	74.00	-15.04	43.18	11.25	39.58	35.05	Peak	173	217	HORIZONTAL
4	16529.87	45.38	54.00	-8.62	29.48	11.29	39.66	35.05	Average	173	217	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	cm	deg		
1	11015.92	55.56	74.00	-18.44	41.63	8.94	39.72	34.73	Peak	173	121	VERTICAL
2	11017.02	43.33	54.00	-10.67	29.40	8.94	39.72	34.73	Average	173	121	VERTICAL
3	16525.21	59.40	74.00	-14.60	43.62	11.25	39.58	35.05	Peak	173	311	VERTICAL
4	16532.16	46.32	54.00	-7.68	30.42	11.29	39.66	35.05	Average	173	311	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 110 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11098.68	57.14	74.00	-16.86	43.06	8.99	39.82	34.73	Peak	173	175	HORIZONTAL
2	11104.62	43.98	54.00	-10.02	29.90	8.99	39.82	34.73	Average	173	175	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11095.77	58.79	74.00	-15.21	44.71	8.99	39.82	34.73	Peak	173	77	VERTICAL
2	11101.61	46.01	54.00	-7.99	31.93	8.99	39.82	34.73	Average	173	77	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 134 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11342.39	44.52	54.00	-9.48	30.02	9.14	40.10	34.74	Average	150	285	HORIZONTAL
2	11343.08	57.15	74.00	-16.85	42.65	9.14	40.10	34.74	Peak	150	285	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11335.12	46.48	54.00	-7.52	31.98	9.14	40.10	34.74	Average	150	32	VERTICAL
2	11344.01	58.72	74.00	-15.28	44.22	9.14	40.10	34.74	Peak	150	32	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 142 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11417.64	44.12	54.00	-9.88	29.47	9.20	40.20	34.75	Average	150	321	HORIZONTAL
2	11422.49	56.80	74.00	-17.20	42.15	9.20	40.20	34.75	Peak	150	321	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11417.03	59.53	74.00	-14.47	44.88	9.20	40.20	34.75	Peak	150	175	VERTICAL
2	11417.89	47.04	54.00	-6.96	32.39	9.20	40.20	34.75	Average	150	175	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11509.72	44.42	54.00	-9.58	29.62	9.25	40.30	34.75	Average	150	226	HORIZONTAL
2	11514.64	56.86	74.00	-17.14	42.07	9.25	40.29	34.75	Peak	150	226	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11511.94	46.41	54.00	-7.59	31.61	9.25	40.30	34.75	Average	150	122	VERTICAL
2	11513.39	58.82	74.00	-15.18	44.02	9.25	40.30	34.75	Peak	150	122	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11587.06	44.46	54.00	-9.54	29.71	9.27	40.25	34.77	Average	150	175	HORIZONTAL
2	11593.60	57.05	74.00	-16.95	42.30	9.27	40.25	34.77	Peak	150	175	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11589.46	57.89	74.00	-16.11	43.14	9.27	40.25	34.77	Peak	150	98	VERTICAL
2	11593.73	45.59	54.00	-8.41	30.84	9.27	40.25	34.77	Average	150	98	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna 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	46.48	54.00	-7.52	31.50	10.78	39.36	35.16	Average	150	81	HORIZONTAL
2	15634.57	59.58	74.00	-14.42	44.60	10.78	39.36	35.16	Peak	150	81	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15625.57	48.35	54.00	-5.65	33.38	10.78	39.35	35.16	Average	150	12	VERTICAL
2	15632.91	60.97	74.00	-13.03	45.99	10.78	39.36	35.16	Peak	150	12	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 58 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15866.66	46.90	54.00	-7.10	31.90	10.81	39.45	35.26	Average	150	322	HORIZONTAL
2	15872.84	59.26	74.00	-14.74	44.26	10.81	39.45	35.26	Peak	150	322	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15866.97	47.79	54.00	-6.21	32.79	10.81	39.45	35.26	Average	150	64	VERTICAL
2	15869.02	59.06	74.00	-14.94	44.06	10.81	39.45	35.26	Peak	150	64	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 106 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11056.19	43.68	54.00	-10.32	29.66	8.97	39.78	34.73	Average	150	336	HORIZONTAL
2	11064.08	56.34	74.00	-17.66	42.32	8.97	39.78	34.73	Peak	150	336	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11057.25	59.47	74.00	-14.53	45.45	8.97	39.78	34.73	Peak	150	228	VERTICAL
2	11060.65	46.44	54.00	-7.56	32.42	8.97	39.78	34.73	Average	150	228	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 122 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11218.10	57.95	74.00	-16.05	43.66	9.07	39.96	34.74	Peak	150	168 HORIZONTAL
2	11222.74	44.96	54.00	-9.04	30.67	9.07	39.96	34.74	Average	150	168 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11221.81	46.96	54.00	-7.04	32.67	9.07	39.96	34.74	Average	150	99 VERTICAL
2	11223.23	59.24	74.00	-14.76	44.95	9.07	39.96	34.74	Peak	150	99 VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 138 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11377.00	44.01	54.00	-9.99	29.45	9.16	40.14	34.74	Average	150	211	HORIZONTAL
2	11379.75	56.05	74.00	-17.95	41.45	9.18	40.16	34.74	Peak	150	211	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11379.42	58.57	74.00	-15.43	43.97	9.18	40.16	34.74	Peak	150	161	VERTICAL
2	11380.65	45.96	54.00	-8.04	31.36	9.18	40.16	34.74	Average	150	161	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Chain 1 + Chain 2
Test Date	May 13, 2015	Test Function	Beamforming function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11550.14	44.25	54.00	-9.75	29.48	9.26	40.27	34.76	Average	150	88	HORIZONTAL
2	11550.30	56.61	74.00	-17.39	41.84	9.26	40.27	34.76	Peak	150	88	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11552.40	57.67	74.00	-16.33	42.90	9.26	40.27	34.76	Peak	150	18	VERTICAL
2	11553.49	45.33	54.00	-8.67	30.56	9.26	40.27	34.76	Average	150	18	VERTICAL



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11n MCS0 HT20 CH 36 / Chain 1 + Chain 2
Test Date	May 15, 2015	Test Function	STBC function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15530.49	61.05	74.00	-12.95	44.50	12.91	34.72	38.36	HORIZONTAL	320	151	Peak
2	15546.34	47.72	54.00	-6.28	31.20	12.92	34.73	38.33	HORIZONTAL	320	151	Averag

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15536.96	47.76	54.00	-6.24	31.22	12.92	34.72	38.34	VERTICAL	186	145	Averag
2	15550.64	62.14	74.00	-11.86	45.60	12.93	34.73	38.34	VERTICAL	186	145	Peak



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11n MCS0 HT20 CH 40 / Chain 1 + Chain 2
Test Date	May 15, 2015	Test Function	STBC function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15603.30	47.89	54.00	-6.11	31.43	12.96	34.75	38.25	HORIZONTAL	225	154	Averag
2	15604.69	60.93	74.00	-13.07	44.47	12.96	34.75	38.25	HORIZONTAL	225	154	Peak

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15600.61	47.89	54.00	-6.11	31.47	12.96	34.75	38.21	VERTICAL	108	172	Averag
2	15612.11	61.22	74.00	-12.78	44.80	12.96	34.75	38.21	VERTICAL	108	172	Peak



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11n MCS0 HT20 CH 48 / Chain 1 + Chain 2
Test Date	May 15, 2015	Test Function	STBC function

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15707.19	60.86	74.00	-13.14	44.52	13.02	34.79	38.11	HORIZONTAL	173	144	Peak
2	15715.70	47.82	54.00	-6.18	31.49	13.03	34.80	38.10	HORIZONTAL	173	144	Averag

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15733.72	61.26	74.00	-12.74	44.94	13.04	34.80	38.08	VERTICAL	273	131	Peak
2	15734.89	47.87	54.00	-6.13	31.55	13.04	34.80	38.08	VERTICAL	273	131	Averag

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.

4.2. Band Edge Emissions Measurement

4.2.1. Limit

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

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

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 (micровolts/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

4.2.2. 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.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	100 MHz
RBW / VBW (Emission in restricted band)	1 MHz / 3MHz for Peak, 1 MHz / 1/T for Average
RBW / VBW (Emission in non-restricted band)	1 MHz / 3MHz for Peak

4.2.3. Test Procedures

- The test procedure is the same as section 4.1.3, only the frequency range investigated is limited to 100MHz around bandedges.

Only worst data of each operating mode is presented

4.2.4. Test Setup Layout

This test setup layout is the same as that shown in section 4.1.4.

4.2.5. Test Deviation

There is no deviation with the original standard.

4.2.6. EUT Operation during Test

For non-beamforming function and STBC function:

The EUT was programmed to be in continuously transmitting mode.

For beamforming function:

The EUT was programmed to be in beamforming transmitting mode.

4.2.7. Test Result of Band Edge and Fundamental Emissions

Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

Channel 36

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5148.80	66.19	74.00	-7.81	60.99	6.13	34.01	34.94	Peak	100	174	VERTICAL
2	5149.20	50.63	54.00	-3.37	45.43	6.13	34.01	34.94	Average	100	174	VERTICAL
3	5173.60	96.36			91.11	6.15	34.04	34.94	Average	100	174	VERTICAL
4	5173.60	106.49			101.24	6.15	34.04	34.94	Peak	100	174	VERTICAL

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

Channel 40

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5147.20	59.88	74.00	-14.12	54.68	6.13	34.01	34.94	Peak	151	10	VERTICAL
2	5150.00	48.00	54.00	-6.00	42.80	6.13	34.01	34.94	Average	151	10	VERTICAL
3	5201.20	98.93			93.60	6.16	34.11	34.94	Average	151	10	VERTICAL
4	5201.20	108.64			103.31	6.16	34.11	34.94	Peak	151	10	VERTICAL

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

Channel 48

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5141.00	55.26	74.00	-18.74	50.09	6.13	33.98	34.94	Peak	237	6	VERTICAL
2	5147.60	42.89	54.00	-11.11	37.69	6.13	34.01	34.94	Average	237	6	VERTICAL
3	5236.40	97.60			92.18	6.18	34.18	34.94	Average	237	6	VERTICAL
4	5236.40	107.31			101.89	6.18	34.18	34.94	Peak	237	6	VERTICAL
5	5382.80	55.46	74.00	-18.54	49.62	6.28	34.49	34.93	Peak	237	6	VERTICAL
6	5388.20	43.11	54.00	-10.89	37.27	6.28	34.49	34.93	Average	237	6	VERTICAL

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

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.

Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 52, 60, 64 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

Channel 52

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5114.80	56.09	74.00	-17.91	50.99	6.11	33.94	34.95	Peak	115	173	VERTICAL
2	5150.00	42.47	54.00	-11.53	37.27	6.13	34.01	34.94	Average	115	173	VERTICAL
3	5263.60	97.47			91.95	6.21	34.25	34.94	Average	115	173	VERTICAL
4	5263.60	108.25			102.73	6.21	34.25	34.94	Peak	115	173	VERTICAL
5	5402.20	43.50	54.00	-10.50	37.61	6.29	34.53	34.93	Average	115	173	VERTICAL
6	5404.00	56.71	74.00	-17.29	50.82	6.29	34.53	34.93	Peak	115	173	VERTICAL

Item 3, 4 are the fundamental frequency at 5260 MHz.

Channel 60

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5301.20	97.21			91.60	6.23	34.32	34.94	Average	100	173	VERTICAL
2	5302.40	107.42			101.81	6.23	34.32	34.94	Peak	100	173	VERTICAL
3	5350.00	47.42	54.00	-6.58	41.68	6.26	34.42	34.94	Average	100	173	VERTICAL
4	5352.40	59.96	74.00	-14.04	54.22	6.26	34.42	34.94	Peak	100	173	VERTICAL

Item 1, 2 are the fundamental frequency at 5300 MHz.

Channel 64

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5326.00	96.18			90.52	6.24	34.36	34.94	Average	113	173	VERTICAL
2	5326.00	106.36			100.70	6.24	34.36	34.94	Peak	113	173	VERTICAL
3	5350.80	48.05	54.00	-5.95	42.31	6.26	34.42	34.94	Average	113	173	VERTICAL
4	5353.60	63.57	74.00	-10.43	57.83	6.26	34.42	34.94	Peak	113	173	VERTICAL

Item 1, 2 are the fundamental frequency at 5320 MHz.

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 100, 116, 140 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

Channel 100

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5452.80	57.42	74.00	-16.58	51.39	6.33	34.63	34.93	Peak	100	172	VERTICAL
2	5456.00	45.12	54.00	-8.88	39.09	6.33	34.63	34.93	Average	100	172	VERTICAL
3	5468.80	49.29	54.00	-4.71	43.21	6.34	34.67	34.93	Average	100	172	VERTICAL
4	5468.80	65.32	74.00	-8.68	59.24	6.34	34.67	34.93	Peak	100	172	VERTICAL
5	5493.60	97.78			91.66	6.35	34.70	34.93	Average	100	172	VERTICAL
6	5494.00	107.86			101.74	6.35	34.70	34.93	Peak	100	172	VERTICAL

Item 5, 6 are the fundamental frequency at 5500 MHz.

Channel 116

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5455.80	56.00	74.00	-18.00	49.97	6.33	34.63	34.93	Peak	101	172	VERTICAL
2	5457.00	43.45	54.00	-10.55	37.42	6.33	34.63	34.93	Average	101	172	VERTICAL
3	5467.80	56.31	74.00	-17.69	50.23	6.34	34.67	34.93	Peak	101	172	VERTICAL
4	5469.40	43.65	54.00	-10.35	37.57	6.34	34.67	34.93	Average	101	172	VERTICAL
5	5583.60	99.27			93.06	6.39	34.77	34.95	Average	101	172	VERTICAL
6	5583.60	109.49			103.28	6.39	34.77	34.95	Peak	101	172	VERTICAL
7	5725.00	43.41	54.00	-10.59	37.05	6.45	34.89	34.98	Average	101	172	VERTICAL
8	5725.60	54.65	74.00	-19.35	48.29	6.45	34.89	34.98	Peak	101	172	VERTICAL

Item 5, 6 are the fundamental frequency at 5580 MHz.

Channel 140

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5696.40	95.75			89.43	6.43	34.86	34.97	Average	100	265	VERTICAL
2	5696.40	105.75			99.43	6.43	34.86	34.97	Peak	100	265	VERTICAL
3	5725.00	60.72	68.20	-7.48	54.36	6.45	34.89	34.98	Peak	100	265	VERTICAL

Item 1, 2 are the fundamental frequency at 5700 MHz.

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.

Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

Channel 149

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5711.00	60.88	68.20	-7.32	54.55	6.44	34.87	34.98	Peak	128	85	VERTICAL
2	5725.00	68.34	78.20	-9.86	61.98	6.45	34.89	34.98	Peak	128	85	VERTICAL
3	5738.20	94.39			88.04	6.45	34.89	34.99	Average	128	85	VERTICAL
4	5740.20	104.04			97.68	6.45	34.90	34.99	Peak	128	85	VERTICAL

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

Channel 157

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5704.60	57.22	68.20	-10.98	50.89	6.44	34.86	34.97	Peak	101	91	VERTICAL
2	5725.00	60.94	78.20	-17.26	54.58	6.45	34.89	34.98	Peak	101	91	VERTICAL
3	5777.80	97.83			91.43	6.46	34.93	34.99	Average	101	91	VERTICAL
4	5780.80	108.08			101.68	6.46	34.93	34.99	Peak	101	91	VERTICAL
5	5850.00	57.49	78.20	-20.71	51.03	6.49	34.98	35.01	Peak	101	91	VERTICAL
6	5878.60	57.25	68.20	-10.95	50.75	6.50	35.01	35.01	Peak	101	91	VERTICAL

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

Channel 165

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5828.60	95.96			89.51	6.48	34.97	35.00	Average	100	175	VERTICAL
2	5828.60	105.76			99.31	6.48	34.97	35.00	Peak	100	175	VERTICAL
3	5851.00	66.20	78.20	-12.00	59.74	6.49	34.98	35.01	Peak	100	175	VERTICAL
4	5860.60	62.19	68.20	-6.01	55.71	6.50	34.99	35.01	Peak	100	175	VERTICAL

Item 1, 2 are the fundamental frequency at 5825 MHz.

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.

Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

Channel 38

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5145.60	63.89	74.00	-10.11	58.69	6.13	34.01	34.94	Peak	100	174	VERTICAL
2	5148.60	51.22	54.00	-2.78	46.02	6.13	34.01	34.94	Average	100	174	VERTICAL
3	5183.40	91.34			86.05	6.15	34.08	34.94	Average	100	174	VERTICAL
4	5184.00	101.05			95.76	6.15	34.08	34.94	Peak	100	174	VERTICAL

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

Channel 46

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna 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	49.14	54.00	-4.86	43.94	6.13	34.01	34.94	Average	232	4	VERTICAL
2	5150.00	61.90	74.00	-12.10	56.70	6.13	34.01	34.94	Peak	232	4	VERTICAL
3	5226.40	95.31			89.92	6.18	34.15	34.94	Average	232	4	VERTICAL
4	5228.80	105.29			99.87	6.18	34.18	34.94	Peak	232	4	VERTICAL

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

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 54, 62 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

Channel 54

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5276.00	95.37			89.84	6.22	34.25	34.94	Average	238	353	VERTICAL
2	5276.00	104.98			99.45	6.22	34.25	34.94	Peak	238	353	VERTICAL
3	5350.00	47.77	54.00	-6.23	42.03	6.26	34.42	34.94	Average	238	353	VERTICAL
4	5350.00	62.10	74.00	-11.90	56.36	6.26	34.42	34.94	Peak	238	353	VERTICAL

Item 1, 2 are the fundamental frequency at 5270 MHz.

Channel 62

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5324.00	102.54			96.88	6.24	34.36	34.94	Peak	112	173	VERTICAL
2	5326.00	91.96			86.30	6.24	34.36	34.94	Average	112	173	VERTICAL
3	5351.20	65.01	74.00	-8.99	59.27	6.26	34.42	34.94	Peak	112	173	VERTICAL
4	5351.60	50.16	54.00	-3.84	44.42	6.26	34.42	34.94	Average	112	173	VERTICAL

Item 1, 2 are the fundamental frequency at 5310 MHz.

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.

Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 102, 110, 134 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

Channel 102

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5458.40	45.93	54.00	-8.07	39.90	6.33	34.63	34.93	Average	108	171	VERTICAL
2	5459.00	58.03	74.00	-15.97	52.00	6.33	34.63	34.93	Peak	108	171	VERTICAL
3	5468.60	64.45	74.00	-9.55	58.37	6.34	34.67	34.93	Peak	108	171	VERTICAL
4	5469.20	51.06	54.00	-2.94	44.98	6.34	34.67	34.93	Average	108	171	VERTICAL
5	5493.80	100.85			94.73	6.35	34.70	34.93	Peak	108	171	VERTICAL
6	5506.40	91.40			85.27	6.36	34.71	34.94	Average	108	171	VERTICAL

Item 5, 6 are the fundamental frequency at 5510 MHz.

Channel 110

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5454.00	58.64	74.00	-15.36	52.61	6.33	34.63	34.93	Peak	100	84	VERTICAL
2	5460.00	46.35	54.00	-7.65	40.32	6.33	34.63	34.93	Average	100	84	VERTICAL
3	5470.00	48.96	54.00	-5.04	42.88	6.34	34.67	34.93	Average	100	84	VERTICAL
4	5470.00	60.51	74.00	-13.49	54.43	6.34	34.67	34.93	Peak	100	84	VERTICAL
5	5535.60	96.48			90.31	6.37	34.74	34.94	Average	100	84	VERTICAL
6	5538.00	106.66			100.49	6.37	34.74	34.94	Peak	100	84	VERTICAL

Item 5, 6 are the fundamental frequency at 5550 MHz.

Channel 134

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5656.20	93.69			87.41	6.42	34.83	34.97	Average	101	175	VERTICAL
2	5662.20	103.27			96.99	6.42	34.83	34.97	Peak	101	175	VERTICAL
3	5725.80	50.34	54.00	-3.66	43.98	6.45	34.89	34.98	Average	101	175	VERTICAL
4	5725.80	61.85	74.00	-12.15	55.49	6.45	34.89	34.98	Peak	101	175	VERTICAL

Item 1, 2 are the fundamental frequency at 5670 MHz.

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

Channel 151

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5713.00	61.28	68.20	-6.92	54.95	6.44	34.87	34.98	Peak	105	87	VERTICAL
2	5725.00	63.74	78.20	-14.46	57.38	6.45	34.89	34.98	Peak	105	87	VERTICAL
3	5750.80	89.21			82.85	6.45	34.90	34.99	Average	105	87	VERTICAL
4	5750.80	99.00			92.64	6.45	34.90	34.99	Peak	105	87	VERTICAL

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

Channel 159

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5786.00	92.71			86.31	6.47	34.93	35.00	Average	113	88	VERTICAL
2	5786.00	102.36			95.96	6.47	34.93	35.00	Peak	113	88	VERTICAL
3	5852.60	64.64	78.20	-13.56	58.18	6.49	34.98	35.01	Peak	113	88	VERTICAL
4	5861.00	60.01	68.20	-8.19	53.53	6.50	34.99	35.01	Peak	113	88	VERTICAL

Item 1, 2 are the fundamental frequency at 5795 MHz.

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 58 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

Channel 42

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5141.00	64.61	74.00	-9.39	59.44	6.13	33.98	34.94	Peak	271	359	VERTICAL
2	5146.00	53.95	54.00	-0.05	48.75	6.13	34.01	34.94	Average	271	359	VERTICAL
3	5183.00	98.09			92.80	6.15	34.08	34.94	Peak	271	359	VERTICAL
4	5201.00	89.33			84.00	6.16	34.11	34.94	Average	271	359	VERTICAL
5	5400.00	56.47	74.00	-17.53	50.58	6.29	34.53	34.93	Peak	271	359	VERTICAL
6	5402.00	44.92	54.00	-9.08	39.03	6.29	34.53	34.93	Average	271	359	VERTICAL

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

Channel 58

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5143.00	57.40	74.00	-16.60	52.23	6.13	33.98	34.94	Peak	263	0	VERTICAL
2	5149.00	45.59	54.00	-8.41	40.39	6.13	34.01	34.94	Average	263	0	VERTICAL
3	5277.00	98.31			92.78	6.22	34.25	34.94	Peak	263	0	VERTICAL
4	5279.00	89.74			84.21	6.22	34.25	34.94	Average	263	0	VERTICAL
5	5351.00	52.70	54.00	-1.30	46.96	6.26	34.42	34.94	Average	263	0	VERTICAL
6	5354.00	63.63	74.00	-10.37	57.89	6.26	34.42	34.94	Peak	263	0	VERTICAL

Item 3, 4 are the fundamental frequency at 5290 MHz.

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.

Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 106, 122, 138 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

Channel 106

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5449.00	63.68	74.00	-10.32	57.68	6.33	34.60	34.93	Peak	119	173	VERTICAL
2	5453.00	52.39	54.00	-1.61	46.36	6.33	34.63	34.93	Average	119	173	VERTICAL
3	5469.00	52.81	54.00	-1.19	46.73	6.34	34.67	34.93	Average	119	173	VERTICAL
4	5469.00	64.04	74.00	-9.96	57.96	6.34	34.67	34.93	Peak	119	173	VERTICAL
5	5521.00	88.98			82.82	6.37	34.73	34.94	Average	119	173	VERTICAL
6	5521.00	98.46			92.30	6.37	34.73	34.94	Peak	119	173	VERTICAL

Item 5, 6 are the fundamental frequency at 5530 MHz.

Channel 122

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5454.00	59.97	74.00	-14.03	53.94	6.33	34.63	34.93	Peak	101	173	VERTICAL
2	5456.00	48.36	54.00	-5.64	42.33	6.33	34.63	34.93	Average	101	173	VERTICAL
3	5469.00	49.49	54.00	-4.51	43.41	6.34	34.67	34.93	Average	101	173	VERTICAL
4	5469.00	61.51	74.00	-12.49	55.43	6.34	34.67	34.93	Peak	101	173	VERTICAL
5	5594.00	103.70			97.48	6.39	34.78	34.95	Peak	101	173	VERTICAL
6	5596.00	93.04			86.82	6.39	34.78	34.95	Average	101	173	VERTICAL
7	5725.00	50.34	54.00	-3.66	43.98	6.45	34.89	34.98	Average	101	173	VERTICAL
8	5725.00	60.82	74.00	-13.18	54.46	6.45	34.89	34.98	Peak	101	173	VERTICAL

Item 5, 6 are the fundamental frequency at 5610 MHz.

Channel 138

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5453.00	45.30	54.00	-8.70	39.27	6.33	34.63	34.93	Average	109	175	VERTICAL
2	5455.00	55.57	74.00	-18.43	49.54	6.33	34.63	34.93	Peak	109	175	VERTICAL
3	5461.00	56.85	74.00	-17.15	50.82	6.33	34.63	34.93	Peak	109	175	VERTICAL
4	5469.00	45.77	54.00	-8.23	39.69	6.34	34.67	34.93	Average	109	175	VERTICAL
5	5661.00	100.52			94.24	6.42	34.83	34.97	Peak	109	175	VERTICAL
6	5689.00	91.69			85.37	6.43	34.86	34.97	Average	109	175	VERTICAL
7	5855.00	45.78	54.00	-8.22	39.31	6.50	34.98	35.01	Average	109	175	VERTICAL
8	5874.00	57.61	74.00	-16.39	51.13	6.50	34.99	35.01	Peak	109	175	VERTICAL

Item 5, 6 are the fundamental frequency at 5690 MHz.

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

Channel 155

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5693.00	61.95	68.20	-6.25	55.63	6.43	34.86	34.97	Peak	146	89	VERTICAL
2	5718.00	63.04	78.20	-15.16	56.70	6.45	34.87	34.98	Peak	146	89	VERTICAL
3	5761.00	96.39			90.01	6.46	34.91	34.99	Peak	146	89	VERTICAL
4	5763.00	87.29			80.91	6.46	34.91	34.99	Average	146	89	VERTICAL
5	5856.00	57.44	78.20	-20.76	50.97	6.50	34.98	35.01	Peak	146	89	VERTICAL
6	5883.00	58.09	68.20	-10.11	51.59	6.50	35.01	35.01	Peak	146	89	VERTICAL

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

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.

Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11a CH 36, 40, 48 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

Channel 36

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5147.20	60.34	74.00	-13.66	55.80	6.13	33.35	34.94	Peak	248	3	VERTICAL
2	5149.20	47.04	54.00	-6.96	42.50	6.13	33.35	34.94	Average	248	3	VERTICAL
3	5182.40	96.43			91.84	6.15	33.38	34.94	Average	248	3	VERTICAL
4	5182.40	106.66			102.07	6.15	33.38	34.94	Peak	248	3	VERTICAL

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

Channel 40

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5149.20	57.65	74.00	-16.35	53.11	6.13	33.35	34.94	Peak	250	358	VERTICAL
2	5150.00	45.89	54.00	-8.11	41.35	6.13	33.35	34.94	Average	250	358	VERTICAL
3	5197.20	97.01			92.39	6.16	33.40	34.94	Average	250	358	VERTICAL
4	5197.20	107.01			102.39	6.16	33.40	34.94	Peak	250	358	VERTICAL

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

Channel 48

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5145.80	54.72	74.00	-19.28	50.18	6.13	33.35	34.94	Peak	238	2	VERTICAL
2	5149.40	42.42	54.00	-11.58	37.88	6.13	33.35	34.94	Average	238	2	VERTICAL
3	5237.00	97.11			92.44	6.18	33.43	34.94	Average	238	2	VERTICAL
4	5237.60	107.17			102.50	6.18	33.43	34.94	Peak	238	2	VERTICAL
5	5367.80	55.24	74.00	-18.76	50.34	6.27	33.57	34.94	Peak	238	2	VERTICAL
6	5390.00	42.33	54.00	-11.67	37.40	6.28	33.58	34.93	Average	238	2	VERTICAL

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

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.

Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11a CH 52, 60, 64 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

Channel 52

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5115.40	57.23	74.00	-16.77	52.13	6.11	33.94	34.95	Peak	138	11	VERTICAL
2	5135.20	44.29	54.00	-9.71	39.13	6.12	33.98	34.94	Average	138	11	VERTICAL
3	5252.20	109.08			103.60	6.20	34.22	34.94	Peak	138	11	VERTICAL
4	5252.80	99.11			93.63	6.20	34.22	34.94	Average	138	11	VERTICAL
5	5402.80	45.51	54.00	-8.49	39.62	6.29	34.53	34.93	Average	138	11	VERTICAL
6	5410.00	58.77	74.00	-15.23	52.88	6.29	34.53	34.93	Peak	138	11	VERTICAL

Item 3, 4 are the fundamental frequency at 5260 MHz.

Channel 60

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5301.80	98.83			93.22	6.23	34.32	34.94	Average	253	350	VERTICAL
2	5301.80	108.76			103.15	6.23	34.32	34.94	Peak	253	350	VERTICAL
3	5350.00	47.19	54.00	-6.81	41.45	6.26	34.42	34.94	Average	253	350	VERTICAL
4	5353.40	59.23	74.00	-14.77	53.49	6.26	34.42	34.94	Peak	253	350	VERTICAL

Item 1, 2 are the fundamental frequency at 5300 MHz.

Channel 64

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5317.00	97.73			92.07	6.24	34.36	34.94	Average	240	1	VERTICAL
2	5317.60	108.13			102.47	6.24	34.36	34.94	Peak	240	1	VERTICAL
3	5351.20	49.25	54.00	-4.75	43.51	6.26	34.42	34.94	Average	240	1	VERTICAL
4	5352.40	64.66	74.00	-9.34	58.92	6.26	34.42	34.94	Peak	240	1	VERTICAL

Item 1, 2 are the fundamental frequency at 5320 MHz.

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.

Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11a CH 100, 116, 140 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

Channel 100

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5436.00	59.55	74.00	-14.45	53.56	6.32	34.60	34.93	102	172	VERTICAL
2	5454.40	47.14	54.00	-6.86	41.11	6.33	34.63	34.93	102	172	VERTICAL
3	5467.60	62.82	74.00	-11.18	56.74	6.34	34.67	34.93	102	172	VERTICAL
4	5468.00	48.95	54.00	-5.05	42.87	6.34	34.67	34.93	102	172	VERTICAL
5	5492.40	98.52			92.40	6.35	34.70	34.93	102	172	VERTICAL
6	5492.80	108.75			102.63	6.35	34.70	34.93	102	172	VERTICAL

Item 5, 6 are the fundamental frequency at 5500 MHz.

Channel 116

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5442.60	59.70	74.00	-14.30	53.71	6.32	34.60	34.93	101	174	VERTICAL
2	5455.80	46.24	54.00	-7.76	40.21	6.33	34.63	34.93	101	174	VERTICAL
3	5467.00	58.75	74.00	-15.25	52.71	6.34	34.63	34.93	101	174	VERTICAL
4	5467.60	46.22	54.00	-7.78	40.14	6.34	34.67	34.93	101	174	VERTICAL
5	5582.40	100.36			94.15	6.39	34.77	34.95	101	174	VERTICAL
6	5582.40	110.78			104.57	6.39	34.77	34.95	101	174	VERTICAL
7	5725.00	45.69	54.00	-8.31	39.33	6.45	34.89	34.98	101	174	VERTICAL
8	5725.00	57.59	74.00	-16.41	51.23	6.45	34.89	34.98	101	174	VERTICAL

Item 5, 6 are the fundamental frequency at 5580 MHz.

Channel 140

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5697.00	97.98			91.66	6.43	34.86	34.97	100	175	VERTICAL
2	5697.00	107.20			100.88	6.43	34.86	34.97	100	175	VERTICAL
3	5726.40	65.16	68.20	-3.04	58.80	6.45	34.89	34.98	100	175	VERTICAL

Item 1, 2 are the fundamental frequency at 5700 MHz.

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.

Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	EEE 802.11a CH 149, 157, 165 / Chain 1 + Chain 2
Test Date	May 10, 2015	Test Function	Non-beamforming function

Channel 149

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna 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	61.31	68.20	-6.89	54.98	6.44	34.87	34.98	Peak	131	272	VERTICAL
2	5723.00	67.02	78.20	-11.18	60.66	6.45	34.89	34.98	Peak	131	272	VERTICAL
3	5747.40	105.79			99.43	6.45	34.90	34.99	Peak	131	272	VERTICAL
4	5747.80	96.24			89.88	6.45	34.90	34.99	Average	131	272	VERTICAL

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

Channel 157

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5711.20	59.09	68.20	-9.11	52.76	6.44	34.87	34.98	Peak	130	90	VERTICAL
2	5722.60	60.63	78.20	-17.57	54.29	6.45	34.87	34.98	Peak	130	90	VERTICAL
3	5786.20	98.87			92.47	6.47	34.93	35.00	Average	130	90	VERTICAL
4	5786.20	108.60			102.20	6.47	34.93	35.00	Peak	130	90	VERTICAL
5	5859.40	59.90	78.20	-18.30	53.42	6.50	34.99	35.01	Peak	130	90	VERTICAL
6	5929.60	59.18	68.20	-9.02	52.63	6.52	35.05	35.02	Peak	130	90	VERTICAL

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

Channel 165

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5827.40	97.13			90.68	6.48	34.97	35.00	Peak	100	174	VERTICAL
2	5827.80	106.60			100.15	6.48	34.97	35.00	Peak	100	174	VERTICAL
3	5852.20	65.72	78.20	-12.48	59.26	6.49	34.98	35.01	Peak	100	174	VERTICAL
4	5860.60	59.80	68.20	-8.40	53.32	6.50	34.99	35.01	Peak	100	174	VERTICAL

Item 1, 2 are the fundamental frequency at 5825 MHz.

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Chain 1 + Chain 2
Test Date	May 14, 2015	Test Function	Beamforming function

Channel 36

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5149.13	67.12	74.00	-6.88	62.58	6.13	33.35	34.94	Peak	215	360	VERTICAL
2	5150.00	51.65	54.00	-2.35	47.11	6.13	33.35	34.94	Average	215	360	VERTICAL
3	5178.13	109.85			105.26	6.15	33.38	34.94	Peak	215	360	VERTICAL
4	5181.50	98.89			94.30	6.15	33.38	34.94	Average	215	360	VERTICAL

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

Channel 40

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5150.00	48.68	54.00	-5.32	44.14	6.13	33.35	34.94	Average	210	349	VERTICAL
2	5150.00	61.75	74.00	-12.25	57.21	6.13	33.35	34.94	Peak	210	349	VERTICAL
3	5203.00	100.42			95.80	6.16	33.40	34.94	Average	210	349	VERTICAL
4	5205.49	110.44			105.82	6.16	33.40	34.94	Peak	210	349	VERTICAL

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

Channel 48

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5150.00	45.62	54.00	-8.38	41.08	6.13	33.35	34.94	Average	223	349	VERTICAL
2	5150.00	55.89	74.00	-18.11	51.35	6.13	33.35	34.94	Peak	223	349	VERTICAL
3	5235.01	100.83			96.16	6.18	33.43	34.94	Average	223	349	VERTICAL
4	5235.26	109.92			105.25	6.18	33.43	34.94	Peak	223	349	VERTICAL

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

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.

Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 52, 60, 64 / Chain 1 + Chain 2
Test Date	May 14, 2015	Test Function	Beamforming function

Channel 52

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5253.01	100.06			95.35	6.20	33.45	34.94	Average	214	354	VERTICAL
2	5254.76	109.72			105.01	6.20	33.45	34.94	Peak	214	354	VERTICAL
3	5350.00	45.63	54.00	-8.37	40.76	6.26	33.55	34.94	Average	214	354	VERTICAL
4	5351.00	57.34	74.00	-16.66	52.47	6.26	33.55	34.94	Peak	214	354	VERTICAL

Item 1, 2 are the fundamental frequency at 5260 MHz.

Channel 60

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5302.50	100.06			95.27	6.23	33.50	34.94	Average	217	0	VERTICAL
2	5303.25	110.36			105.57	6.23	33.50	34.94	Peak	217	0	VERTICAL
3	5350.00	48.00	54.00	-6.00	43.13	6.26	33.55	34.94	Average	217	0	VERTICAL
4	5350.50	60.83	74.00	-13.17	55.96	6.26	33.55	34.94	Peak	217	0	VERTICAL

Item 1, 2 are the fundamental frequency at 5300 MHz.

Channel 64

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5313.26	99.03			94.21	6.24	33.52	34.94	Average	226	357	VERTICAL
2	5321.75	108.55			103.73	6.24	33.52	34.94	Peak	226	357	VERTICAL
3	5350.00	49.30	54.00	-4.70	44.43	6.26	33.55	34.94	Average	226	357	VERTICAL
4	5350.00	61.27	74.00	-12.73	56.40	6.26	33.55	34.94	Peak	226	357	VERTICAL

Item 1, 2 are the fundamental frequency at 5320 MHz.

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 100, 116, 140 / Chain 1 + Chain 2
Test Date	May 14, 2015	Test Function	Beamforming function

Channel 100

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5460.00	47.36	54.00	-6.64	42.31	6.33	33.65	34.93	Average	216	355	VERTICAL
2	5460.00	59.27	74.00	-14.73	54.22	6.33	33.65	34.93	Peak	216	355	VERTICAL
3	5469.88	66.56	74.00	-7.44	61.48	6.34	33.67	34.93	Peak	216	355	VERTICAL
4	5470.00	51.85	54.00	-2.15	46.77	6.34	33.67	34.93	Average	216	355	VERTICAL
5	5494.01	99.37			94.27	6.35	33.68	34.93	Average	216	355	VERTICAL
6	5494.26	109.45			104.35	6.35	33.68	34.93	Peak	216	355	VERTICAL

Item 5, 6 are the fundamental frequency at 5500 MHz.

Channel 116

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5584.49	100.07			94.81	6.39	33.82	34.95	Average	225	349	VERTICAL
2	5585.24	110.25			104.99	6.39	33.82	34.95	Peak	225	349	VERTICAL
3	5725.00	46.77	54.00	-7.23	41.29	6.45	34.01	34.98	Average	225	349	VERTICAL
4	5725.00	58.31	74.00	-15.69	52.83	6.45	34.01	34.98	Peak	225	349	VERTICAL

Item 1, 2 are the fundamental frequency at 5580 MHz.

Channel 140

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5695.76	98.08			92.65	6.43	33.97	34.97	Average	225	360	VERTICAL
2	5698.00	107.55			102.12	6.43	33.97	34.97	Peak	225	360	VERTICAL
3	5725.00	49.87	54.00	-4.13	44.39	6.45	34.01	34.98	Average	225	360	VERTICAL
4	5725.00	66.33	74.00	-7.67	60.85	6.45	34.01	34.98	Peak	225	360	VERTICAL

Item 1, 2 are the fundamental frequency at 5700 MHz.

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH144, 149 / Chain 1 + Chain 2
Test Date	May 14, 2015	Test Function	Beamforming function

Channel 144

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5712.88	100.51			95.06	6.44	33.99	34.98 Average	225	354	VERTICAL
2	5714.01	110.38			104.93	6.44	33.99	34.98 Peak	225	354	VERTICAL
3	5850.00	58.75	68.20	-9.45	53.09	6.49	34.18	35.01 Peak	225	354	VERTICAL

Item 1, 2 are the fundamental frequency at 5720 MHz.

Channel 149

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5715.00	60.28	68.20	-7.92	54.83	6.44	33.99	34.98 Peak	243	349	VERTICAL
2	5724.50	71.54	78.20	-6.66	66.06	6.45	34.01	34.98 Peak	243	349	VERTICAL
3	5747.12	96.41			90.91	6.45	34.04	34.99 Average	243	349	VERTICAL
4	5749.37	106.33			100.83	6.45	34.04	34.99 Peak	243	349	VERTICAL

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

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.

Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157, 165 / Chain 1 + Chain 2
Test Date	May 14, 2015	Test Function	Beamforming function

Channel 157

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5715.00	58.97	68.20	-9.23	53.52	6.44	33.99	34.98	Peak	233	358 VERTICAL
2	5725.00	60.15	78.20	-18.05	54.67	6.45	34.01	34.98	Peak	233	358 VERTICAL
3	5787.25	100.24	---	---	94.66	6.47	34.11	35.00	Average	233	358 VERTICAL
4	5788.50	109.96	---	---	104.38	6.47	34.11	35.00	Peak	233	358 VERTICAL
5	5850.00	58.33	78.20	-19.87	52.67	6.49	34.18	35.01	Peak	233	358 VERTICAL
6	5860.00	58.60	68.20	-9.60	52.90	6.50	34.21	35.01	Peak	233	358 VERTICAL

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

Channel 165

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5827.37	97.41	---	---	91.77	6.48	34.16	35.00	Average	230	358 VERTICAL
2	5828.25	107.19	---	---	101.55	6.48	34.16	35.00	Peak	230	358 VERTICAL
3	5850.00	68.08	78.20	-10.12	62.42	6.49	34.18	35.01	Peak	230	358 VERTICAL
4	5860.00	58.85	68.20	-9.35	53.15	6.50	34.21	35.01	Peak	230	358 VERTICAL

Item 1, 2 are the fundamental frequency at 5825 MHz.

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.

Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Chain 1 + Chain 2
Test Date	May 14, 2015	Test Function	Beamforming function

Channel 38

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna 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	50.37	54.00	-3.63	45.83	6.13	33.35	34.94	Average	225	355	VERTICAL
2	5150.00	61.72	74.00	-12.28	57.18	6.13	33.35	34.94	Peak	225	355	VERTICAL
3	5183.26	92.72			88.13	6.15	33.38	34.94	Average	225	355	VERTICAL
4	5183.76	102.71			98.12	6.15	33.38	34.94	Peak	225	355	VERTICAL

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

Channel 46

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna 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	50.48	54.00	-3.52	45.94	6.13	33.35	34.94	Average	224	350	VERTICAL
2	5150.00	62.25	74.00	-11.75	57.71	6.13	33.35	34.94	Peak	224	350	VERTICAL
3	5224.38	97.72			93.07	6.17	33.42	34.94	Average	224	350	VERTICAL
4	5224.38	107.23			102.58	6.17	33.42	34.94	Peak	224	350	VERTICAL

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

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 54, 62 / Chain 1 + Chain 2
Test Date	May 14, 2015	Test Function	Beamforming function

Channel 54

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5283.86	96.73			91.97	6.22	33.48	34.94	Average	224	360	VERTICAL
2	5284.23	106.09			101.33	6.22	33.48	34.94	Peak	224	360	VERTICAL
3	5350.00	50.29	54.00	-3.71	45.42	6.26	33.55	34.94	Average	224	360	VERTICAL
4	5351.50	61.98	74.00	-12.02	57.11	6.26	33.55	34.94	Peak	224	360	VERTICAL

Item 1, 2 are the fundamental frequency at 5270 MHz.

Channel 62

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5316.24	94.29			89.47	6.24	33.52	34.94	Average	224	360	VERTICAL
2	5317.49	104.78			99.96	6.24	33.52	34.94	Peak	224	360	VERTICAL
3	5350.00	52.78	54.00	-1.22	47.91	6.26	33.55	34.94	Average	224	360	VERTICAL
4	5352.75	67.63	74.00	-6.37	62.76	6.26	33.55	34.94	Peak	224	360	VERTICAL

Item 1, 2 are the fundamental frequency at 5310 MHz.

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.

Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 102, 110, 134 / Chain 1 + Chain 2
Test Date	May 14, 2015	Test Function	Beamforming function

Channel 102

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5460.00	47.70	54.00	-6.30	42.65	6.33	33.65	34.93	Average	225	360	VERTICAL
2	5460.00	59.89	74.00	-14.11	54.84	6.33	33.65	34.93	Peak	225	360	VERTICAL
3	5469.00	69.86	74.00	-4.14	64.78	6.34	33.67	34.93	Peak	225	360	VERTICAL
4	5470.00	53.27	54.00	-0.73	48.19	6.34	33.67	34.93	Average	225	360	VERTICAL
5	5494.77	93.72			88.62	6.35	33.68	34.93	Average	225	360	VERTICAL
6	5496.27	102.85			97.75	6.35	33.68	34.93	Peak	225	360	VERTICAL

Item 5, 6 are the fundamental frequency at 5510 MHz.

Channel 110

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5460.00	47.82	54.00	-6.18	42.77	6.33	33.65	34.93	Average	206	360	VERTICAL
2	5460.00	58.33	74.00	-15.67	53.28	6.33	33.65	34.93	Peak	206	360	VERTICAL
3	5470.00	49.59	54.00	-4.41	44.51	6.34	33.67	34.93	Average	206	360	VERTICAL
4	5470.00	59.80	74.00	-14.20	54.72	6.34	33.67	34.93	Peak	206	360	VERTICAL
5	5541.76	106.76			101.58	6.37	33.75	34.94	Peak	206	360	VERTICAL
6	5543.26	97.05			91.87	6.37	33.75	34.94	Average	206	360	VERTICAL

Item 5, 6 are the fundamental frequency at 5550 MHz.

Channel 134

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5660.26	94.03			88.66	6.42	33.92	34.97	Average	236	360	VERTICAL
2	5671.50	104.00			98.60	6.43	33.94	34.97	Peak	236	360	VERTICAL
3	5725.00	51.70	54.00	-2.30	46.22	6.45	34.01	34.98	Average	236	360	VERTICAL
4	5725.50	67.02	74.00	-6.98	61.54	6.45	34.01	34.98	Peak	236	360	VERTICAL

Item 1, 2 are the fundamental frequency at 5670 MHz.

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 142, 151, 159 / Chain 1 + Chain 2
Test Date	May 14, 2015	Test Function	Beamforming function

Channel 142

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5717.87	97.18			91.70	6.45	34.01	34.98	Average	236	360	VERTICAL
2	5721.99	106.89			101.41	6.45	34.01	34.98	Peak	236	360	VERTICAL
3	5851.50	59.72	68.20	-8.48	54.06	6.49	34.18	35.01	Peak	236	360	VERTICAL

Item 1, 2 are the fundamental frequency at 5710 MHz.

Channel 151

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	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	62.88	68.20	-5.32	57.43	6.44	33.99	34.98	Peak	225	356	VERTICAL
2	5724.50	62.55	78.20	-15.65	57.07	6.45	34.01	34.98	Peak	225	356	VERTICAL
3	5757.00	100.81			95.28	6.46	34.06	34.99	Peak	225	356	VERTICAL
4	5759.49	90.62			85.09	6.46	34.06	34.99	Average	225	356	VERTICAL

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

Channel 159

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5800.99	96.21			90.63	6.47	34.11	35.00	Average	220	358	VERTICAL
2	5803.24	106.24			100.63	6.48	34.13	35.00	Peak	220	358	VERTICAL
3	5850.00	68.80	78.20	-9.40	63.14	6.49	34.18	35.01	Peak	220	358	VERTICAL
4	5860.75	62.88	68.20	-5.32	57.18	6.50	34.21	35.01	Peak	220	358	VERTICAL

Item 1, 2 are the fundamental frequency at 5795 MHz.

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 58 / Chain 1 + Chain 2
Test Date	May 14, 2015	Test Function	Beamforming function

Channel 42

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5147.00	67.85	74.00	-6.15	63.31	6.13	33.35	34.94	Peak	227	357	VERTICAL
2	5150.00	52.11	54.00	-1.89	47.57	6.13	33.35	34.94	Average	227	357	VERTICAL
3	5222.73	100.29			95.64	6.17	33.42	34.94	Peak	227	357	VERTICAL
4	5224.98	89.98			85.31	6.18	33.43	34.94	Average	227	357	VERTICAL

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

Channel 58

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5303.11	90.89			86.10	6.23	33.50	34.94	Average	225	360	VERTICAL
2	5317.34	100.53			95.71	6.24	33.52	34.94	Peak	225	360	VERTICAL
3	5350.00	52.42	54.00	-1.58	47.55	6.26	33.55	34.94	Average	225	360	VERTICAL
4	5351.50	70.28	74.00	-3.72	65.41	6.26	33.55	34.94	Peak	225	360	VERTICAL

Item 1, 2 are the fundamental frequency at 5290 MHz.

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.

Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 106, 122, 138 / Chain 1 + Chain 2
Test Date	May 14, 2015	Test Function	Beamforming function

Channel 106

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5451.39	53.52	54.00	-0.48	48.47	6.33	33.65	34.93	Average	215	360	VERTICAL
2	5455.51	70.02	74.00	-3.98	64.97	6.33	33.65	34.93	Peak	215	360	VERTICAL
3	5466.63	67.80	74.00	-6.20	62.72	6.34	33.67	34.93	Peak	215	360	VERTICAL
4	5470.00	53.64	54.00	-0.36	48.56	6.34	33.67	34.93	Average	215	360	VERTICAL
5	5520.64	100.66			95.51	6.37	33.72	34.94	Peak	215	360	VERTICAL
6	5522.13	91.06			85.91	6.37	33.72	34.94	Average	215	360	VERTICAL

Item 5, 6 are the fundamental frequency at 5530 MHz.

Channel 122

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5459.00	63.34	74.00	-10.66	58.29	6.33	33.65	34.93	Peak	223	360	VERTICAL
2	5460.00	49.92	54.00	-4.08	44.87	6.33	33.65	34.93	Average	223	360	VERTICAL
3	5467.50	65.46	74.00	-8.54	60.38	6.34	33.67	34.93	Peak	223	360	VERTICAL
4	5470.00	51.08	54.00	-2.92	46.00	6.34	33.67	34.93	Average	223	360	VERTICAL
5	5593.52	103.63			98.37	6.39	33.82	34.95	Peak	223	360	VERTICAL
6	5595.52	93.91			88.65	6.39	33.82	34.95	Average	223	360	VERTICAL
7	5725.00	52.01	54.00	-1.99	46.53	6.45	34.01	34.98	Average	223	360	VERTICAL
8	5726.00	69.03	74.00	-4.97	63.55	6.45	34.01	34.98	Peak	223	360	VERTICAL

Item 5, 6 are the fundamental frequency at 5610 MHz.

Channel 138

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5687.50	103.31			97.88	6.43	33.97	34.97	Peak	236	360	VERTICAL
2	5696.49	93.35			87.92	6.43	33.97	34.97	Average	236	360	VERTICAL
3	5854.49	60.96	68.20	-7.24	55.26	6.50	34.21	35.01	Peak	236	360	VERTICAL

Item 1, 2 are the fundamental frequency at 5690 MHz.

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.



Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Chain 1 + Chain 2
Test Date	May 14, 2015	Test Function	Beamforming function

Channel 155

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5712.00	62.73	68.20	-5.47	57.28	6.44	33.99	34.98	Peak	236	360	VERTICAL
2	5722.75	66.19	78.20	-12.01	60.71	6.45	34.01	34.98	Peak	236	360	VERTICAL
3	5762.27	97.51			91.98	6.46	34.06	34.99	Peak	236	360	VERTICAL
4	5801.59	86.97			81.39	6.47	34.11	35.00	Average	236	360	VERTICAL
5	5850.00	63.13	78.20	-15.07	57.47	6.49	34.18	35.01	Peak	236	360	VERTICAL
6	5862.25	63.55	68.20	-4.65	57.85	6.50	34.21	35.01	Peak	236	360	VERTICAL

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

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.

Temperature	26°C	Humidity	51%
Test Engineer	Mars Lin	Configurations	IEEE 802.11n MCS0 HT20 CH 36, 40, 48 / Chain 1 + Chain 2
Test Date	May 15, 2015	Test Function	STBC function

Channel 36

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5150.00	53.63	54.00	-0.37	48.36	7.33	33.58	31.52	VERTICAL	178	126	Averag
2	5150.00	67.42	74.00	-6.58	62.15	7.33	33.58	31.52	VERTICAL	178	126	Peak
3	5173.63	97.36			92.03	7.35	33.57	31.55	VERTICAL	178	126	Averag
4	5178.26	108.69			103.35	7.36	33.57	31.55	VERTICAL	178	126	Peak

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

Channel 40

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5150.00	49.75	54.00	-4.25	44.48	7.33	33.58	31.52	VERTICAL	178	100	Averag
2	5150.00	64.54	74.00	-9.46	59.27	7.33	33.58	31.52	VERTICAL	178	100	Peak
3	5193.63	98.92			93.55	7.37	33.56	31.56	VERTICAL	178	100	Averag
4	5202.32	109.61			104.22	7.38	33.56	31.57	VERTICAL	178	100	Peak

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

Channel 48

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5144.79	58.82	74.00	-15.18	53.56	7.32	33.58	31.52	VERTICAL	180	124	Peak
2	5150.00	45.76	54.00	-8.24	40.49	7.33	33.58	31.52	VERTICAL	180	124	Averag
3	5233.63	99.42			93.97	7.41	33.55	31.59	VERTICAL	180	124	Averag
4	5242.32	110.28			104.82	7.42	33.55	31.59	VERTICAL	180	124	Peak
5	5350.00	46.42	54.00	-7.58	40.73	7.52	33.51	31.68	VERTICAL	180	124	Averag
6	5352.89	58.78	74.00	-15.22	53.09	7.52	33.51	31.68	VERTICAL	180	124	Peak

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

Note: Both antenna polarizations have been tested and only the worst case was recorded in test report.

Note:

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

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

4.3. Antenna Requirements

4.3.1. 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.

4.3.2. 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
BILOG ANTENNA	Schaffner	CBL6112D	22021	20MHz ~ 2GHz	May 26, 2014	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Oct. 28, 2014	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Aug. 22, 2014	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10991	0.1MHz ~ 1.3GHz	Feb. 24, 2015	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 12, 2015	Radiation (03CH01-CB)
Pre-Amplifier	WM	TF-130N-R1	923365	26GHz ~ 40GHz	Nov. 25, 2014	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Nov. 06, 2014	Radiation (03CH01-CB)
EMI Test Receiver	Agilent	N9038A	MY52260123	9kHz ~ 8GHz	Jan. 21, 2015	Radiation (03CH01-CB)
Turn Table	INN CO	CO 2000	N/A	0 ~ 360 degree	N.C.R.	Radiation (03CH01-CB)
Antenna Mast	INN CO	CO 2000	N/A	1 m ~ 4 m	N.C.R.	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-1	N/A	30 MHz ~ 1 GHz	Nov. 15, 2014	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-1	N/A	1 GHz ~ 40 GHz	Nov. 15, 2014	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-2	N/A	1 GHz ~ 40 GHz	Nov. 15, 2014	Radiation (03CH01-CB)
Thermometer	HTC-1	HTC-1	TP-1	-50°C~70°C	Mar. 11, 2015	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 12, 2015	Radiation (03CH01-CB)

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

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

6. MEASUREMENT UNCERTAINTY

Test Items	Uncertainty	Remark
Radiated Emission (30MHz ~ 1,000MHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%