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FCC RADIO TEST REPORT

Applicant's company	**Realtek Semiconductor Corp.**
Applicant Address	No. 2,Innovation Road II, Hsinchu Science Park, Hsinchu 300,Taiwan
FCC ID	**TX2-RTL8822BE**
Manufacturer's company	**Realtek Semiconductor Corp.**
Manufacturer Address	No. 2,Innovation Road II, Hsinchu Science Park, Hsinchu 300,Taiwan

Product Name	802.11a/b/g/n/ac RTL8822BE Combo module
Brand Name	REALTEK
Model No.	RTL8822BE
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	May 19, 2016
Final Test Date	Aug. 12, 2016
Submission Type	Original Equipment

Statement

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

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

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

The measurements and test results shown in this test report were made in accordance with the procedures and found in compliance with the limit given in **ANSI C63.10-2013**, **47 CFR FCC Part 15 Subpart E, KDB789033 D02 v01r02, KDB662911 D01 v02r01, KDB644545 D03 v01, ET Docket No. 13–49; FCC 16–24.**

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

Testing Laboratory
1190

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History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR651715AB	Rev. 01	Initial issue of report	Aug. 19, 2016

1. VERIFICATION OF COMPLIANCE

Product Name	:	**802.11a/b/g/n/ac RTL8822BE Combo module**
Brand Name	:	**REALTEK**
Model No.	:	**RTL8822BE**
Applicant	:	**Realtek Semiconductor Corp.**
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 May 19, 2016 would like to declare that the tested sample has been evaluated and found to be in compliance with the tested rule parts. The data recorded as well as the test configuration specified is true and accurate for showing the sample's EMC nature.

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**
4.1	15.207	AC Power Line Conducted Emissions	Complies
4.2	15.407(a)	Emission Bandwidth	Complies
4.3	15.407(a)	Maximum Conducted Output Power	Complies
4.4	15.407(a)	Peak Power Spectral Density	Complies
4.5	15.407(b)	Radiated Emissions	Complies
4.6	15.407(b)	Band Edge Emissions	Complies
4.7	15.407(g)	Frequency Stability	Complies
4.8	15.203	Antenna Requirements	Complies

3. GENERAL INFORMATION

3.1. Product Details

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
5150-5250	a, n (HT20), ac (VHT20)	5180-5240	36-48 [4]
5250-5350		5260-5320	52-64 [4]
5470-5725		5500-5720	100-144 [12]
5725-5850		5745-5825	149-165 [5]
5150-5250	n (HT40), ac (VHT40)	5190-5230	38-46 [2]
5250-5350		5270-5310	54-62 [2]
5470-5725		5510-5710	102-142 [6]
5725-5850		5755-5795	151-159 [2]
5150-5250	ac (VHT80)	5210	42 [1]
5250-5350		5290	58 [1]
5470-5725		5530-5690	106-138 [3]
5725-5850		5775	155 [1]

Band	Mode	BWch (MHz)	Nant
5.2G	11a	20	1
5.3G	11a	20	1
5.6G	11a	20	1
5.8G	11a	20	1
5.2G	HT20	20	1
5.3G	HT20	20	1
5.6G	HT20	20	1
5.8G	HT20	20	1
5.2G	VHT20	20	1
5.3G	VHT20	20	1
5.6G	VHT20	20	1
5.8G	VHT20	20	1
5.2G	HT40	40	1
5.3G	HT40	40	1
5.6G	HT40	40	1
5.8G	HT40	40	1
5.2G	VHT40	40	1
5.3G	VHT40	40	1
5.6G	VHT40	40	1
5.8G	VHT40	40	1
5.2G	VHT80	80	1
5.3G	VHT80	80	1
5.6G	VHT80	80	1
5.8G	VHT80	80	1
5.2G	11a	20	2
5.3G	11a	20	2
5.6G	11a	20	2
5.8G	11a	20	2
5.2G	HT20	20	2
5.3G	HT20	20	2
5.6G	HT20	20	2
5.8G	HT20	20	2
5.2G	VHT20	20	2
5.3G	VHT20	20	2
5.6G	VHT20	20	2
5.8G	VHT20	20	2
5.2G	HT40	40	2

Band	Mode	BWch (MHz)	Nant
5.3G	HT40	40	2
5.6G	HT40	40	2
5.8G	HT40	40	2
5.2G	VHT40	40	2
5.3G	VHT40	40	2
5.6G	VHT40	40	2
5.8G	VHT40	40	2
5.2G	VHT80	80	2
5.3G	VHT80	80	2
5.6G	VHT80	80	2
5.8G	VHT80	80	2

Note:
- 5.2G/5.2G-I(IC) is the 5.2GHz Band (5.15-5.25GHz).
- 5.3G/5.3G-I(IC) is the 5.3GHz Band (5.25-5.35GHz).
- 5.6G is the 5.6GHz Band (5.47-5.725GHz) or w/o TDWR (5.47-5.6GHz and 5.65-5.725GHz).
- 5.6G-I(IC) is the 5.6GHz IC Band w/o TDWR (5.47-5.6GHz and 5.65-5.725GHz).
- 5.8G/5.8G-I(IC) is the 5.8GHz Band (5.725-5.850GHz).
- 11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- VHT20, VHT40 and VHT80 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- BWch is the nominal channel bandwidth.
- Nss-Min is the minimum number of spatial streams.
- Nant is the number of outputs. e.g., 2(2,3) means have 2 outputs for port 2 and port 3. 2 means have 2 outputs for port 1 and port 2.

3.2. EUT Operational Condition

EUT Power Type	From host system			
Beamforming Function	☒	With beamforming	☐	Without beamforming
	Note: The product has beamforming function for 802.11n/ac in 2TX mode.			
Weather Band	☒	With 5600~5650MHz	☐	Without 5600~5650MHz
Function	☐	Outdoor;	☒	Indoor
	☐	Fixed P2P	☒	Client
TPC Function	☒	TPC	☐	w/o TPC

3.3. Accessories

N/A

3.4. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	
					2.4GHz	5GHz
1	PSA	RFDPA171320EMLB301	Dipole Antenna	I-PEX	3.14	5
2	LYNwave	ALA110-222050-300011	PIFA Antenna	I-PEX	3.5	5

Note: The EUT has two types of antenna and there are two antennas for each set.

For 2.4GHz function:

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

The EUT supports the antenna with TX and RX diversity functions.

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

The Chain 1 generated the worst case, so it was selected to test and record in the report.

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

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

Chain 1 and Chain 2 could transmit/receive simultaneously.

For 5GHz function:

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

The EUT supports the antenna with TX and RX diversity functions.

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

The Chain 2 generated the worst case, so it was selected to test and record in the report.

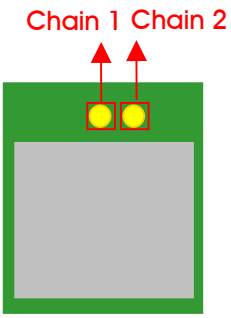
For IEEE 802.11a/n/ac mode (2TX/2RX):

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

Chain 1 and Chain 2 could transmit/receive simultaneously.

For Bluetooth function:

Only Chain 2 can be used as transmitting/receiving functions.



3.5. Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR FCC Part 15
- ANSI C63.10-2013
- FCC KDB 789033 D02 v01r02
- FCC KDB 644545 D03 v01
- FCC KDB 662911 D01 v02r01

3.6. The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral
Operating Mode	Normal Link
1	EUT 1 with Ant.2 (wireless 2.4GHz + Bluetooth4.0)
2	EUT 1 with Ant.2 (wireless 5GHz + Bluetooth4.0)
Mode 1 has been evaluated to be the worst case between Mode 1~2, thus measurement for Mode 3 will follow this same test mode.	
3	EUT 2 with Ant.2 (wireless 2.4GHz + Bluetooth4.0)
Mode 1 has been evaluated to be the worst case among Mode 1~3, thus measurement for Mode 4 will follow this same test mode.	
4	EUT 1 with Ant.1 (wireless 2.4GHz + Bluetooth4.0)
Mode 1 generated the worst test result, so it was recorded in this report.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emission Bandwidth Maximum Conducted Output Power Peak Power Spectral Density Frequency Stability
Test Condition	Conducted measurement at transmit chains

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emissions in Non-restricted Frequency Bands Emissions in Restricted Frequency Bands
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	Normal Link
1	EUT 1 Y axis with Ant.2 (wireless 2.4GHz + Bluetooth4.0)
2	EUT 1 Y axis with Ant.2 (wireless 5GHz + Bluetooth4.0)
Mode 2 has been evaluated to be the worst case between Mode 1~2, thus measurement for Mode 3 will follow this same test mode.	
4	EUT 2 Z axis with Ant.2 (wireless 5GHz + Bluetooth4.0)
Mode 4 has been evaluated to be the worst case among Mode 1~4, thus measurement for Mode 5 will follow this same test mode.	
5	EUT 2 Z axis with Ant.1 (wireless 5GHz + Bluetooth4.0)
Mode 4 and 5 generated the worst test result, so it was recorded in this report.	
Operating Mode > 1GHz	CTX
The EUT was performed at X axis, Y axis and Z axis position for Radiated emission above 1GHz test, and the worst case was found at Z axis for dipole antenna and X axis for PIFA antenna. So the measurement will follow this same test configuration.	
1	EUT 1 Z axis with Ant.1
2	EUT 1 X axis with Ant.2

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Test Condition	Radiated measurement
Operating Mode	Normal Link
1	EUT 1 X axis with Ant.2 (wireless 2.4GHz + Bluetooth4.0)
2	EUT 1 Y axis with Ant.2 (wireless 2.4GHz + Bluetooth4.0)
3	EUT 1 Z axis with Ant.2 (wireless 2.4GHz + Bluetooth4.0)
Mode 2 has been evaluated to be the worst case among Mode 1~3, thus measurement for Mode 4~6 will follow this same test mode.	
4	EUT 1 Y axis with Ant.2 (wireless 5GHz + Bluetooth4.0)
5	EUT 1 Y axis with Ant.1 (wireless 2.4GHz + Bluetooth4.0)
6	EUT 1 Y axis with Ant.1 (wireless 5GHz + Bluetooth4.0)
Refer to Sporton Test Report No.: FA651715 for Co-location RF Exposure Evaluation and Appendix E for Radiated Emission Co-location (Mode 2 and Mode 4 generated the worst test result, so it was recorded.).	

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

2. There are two modes of EUT, one is beamforming mode, and the other is non-beamforming mode for 802.11n/ac.

3. The non-beamformingn mode can be covered by beamforming mode for 2TX of 802.11ac test mode.

4. For Conducted measurement Test: only the higher gain antenna “Ant. 2” was selected to perform the test and recorded in this report.

3.7. Table for Testing Locations

Test Site Location							
Address:	No.8, Lane 724, Bo-ai St., Jhubei City, Hsinchu County 302, Taiwan, R.O.C.						
TEL:	886-3-656-9065						
FAX:	886-3-656-9085						
Test Site No.	**Site Category**	**Location**	**FCC Designation No.**	**IC File No.**	**Test Engineer**	**Test Environment**	**Test Date**
03CH01-CB	SAC	Hsin Chu	TW0006	IC 4086D	Stim song, Rom Huang	23.9℃/ 71%	May 19, 2016 | Aug. 11, 2016
CO01-CB	Conduction	Hsin Chu	TW0006	IC 4086D	Deven Huang	23℃/ 60%	May 24, 2016
TH01-CB	OVEN Room	Hsin Chu	-	-	Akina Chiu	23.9 ℃/ 71%	Aug. 11,2016 | Aug. 12,2016

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

3.8. Table for Multiple List

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

Brand Name	Model Name	EUT	Interface for platform
REALTEK	RTL8822BE	EUT 1	PCIE
		EUT 2	USB

3.9. Table for Supporting Units

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

Support Unit	Brand	Model	FCC ID
NB*2	DELL	E4300	DoC
Device	REALTEK	RTL8822BE	TX2-RTL8822BE
Test fixture*2	REALTEK	N/A	N/A
Mouse	Logitech	M-U0026	DoC
Earphone	SHYARO CHI	MIC-04	N/A
WLAN AP	D-LINK	DIR860L	KA2IR860LA1

For Test Site No: 03CH01-CB above 1GHz and TH01-CB / <For Non-Beamforming Mode>

Support Unit	Brand	Model	FCC ID
NB	DELL	E4300	DoC
Test fixture	REALTEK	N/A	N/A

For Test Site No: 03CH01-CB above 1GHz / <For Beamforming Mode>

Support Unit	Brand	Model	FCC ID
NB*2	DELL	E4300	DoC
Test fixture	REALTEK	N/A	N/A
RX Device	Netgear	R7500	PY314300288

For Test Site No: CO01-CB

Support Unit	Brand	Model	FCC ID
NB*2	DELL	E6430	DoC
Device	REALTEK	RTL8822BE	TX2-RTL8822BE
Test fixture*2	REALTEK	N/A	N/A
Earphone	e-Power	S90W	DoC
Mouse	HP	FM100	DoC
AP Router	Planex	GW-AP54SGX	KA220030603014-1

3.10. Table for Parameters of Test Software Setting

Band	Mode	BWch (MHz)	Nss-Min	Nant	Ch. (MHz)	Range	Power Setting
5.2G	11a	20	1	1	5180	L	53
5.2G	11a	20	1	1	5200	M	62
5.2G	11a	20	1	1	5240	H	57
5.3G	11a	20	1	1	5260	L	60
5.3G	11a	20	1	1	5300	M	61
5.3G	11a	20	1	1	5320	H	60
5.6G	11a	20	1	1	5500	L	52
5.6G	11a	20	1	1	5580	M	59
5.6G	11a	20	1	1	5700	H	55
5.6G	11a	20	1	1	5720	C	60
5.8G	11a	20	1	1	5720	C	60
5.8G	11a	20	1	1	5745	L	56
5.8G	11a	20	1	1	5785	M	56
5.8G	11a	20	1	1	5825	H	56
5.2G	VHT20	20	1,(M0)	1	5180	L	54
5.2G	VHT20	20	1,(M0)	1	5200	M	62
5.2G	VHT20	20	1,(M0)	1	5240	H	57
5.3G	VHT20	20	1,(M0)	1	5260	L	61
5.3G	VHT20	20	1,(M0)	1	5300	M	61
5.3G	VHT20	20	1,(M0)	1	5320	H	60
5.6G	VHT20	20	1,(M0)	1	5500	L	55
5.6G	VHT20	20	1,(M0)	1	5580	M	60
5.6G	VHT20	20	1,(M0)	1	5700	H	51
5.6G	VHT20	20	1,(M0)	1	5720	C	60
5.8G	VHT20	20	1,(M0)	1	5720	C	60
5.8G	VHT20	20	1,(M0)	1	5745	L	56
5.8G	VHT20	20	1,(M0)	1	5785	M	56
5.8G	VHT20	20	1,(M0)	1	5825	H	58
5.2G	VHT40	40	1,(M0)	1	5190	L	45
5.2G	VHT40	40	1,(M0)	1	5230	H	55
5.3G	VHT40	40	1,(M0)	1	5270	L	63
5.3G	VHT40	40	1,(M0)	1	5310	H	49
5.6G	VHT40	40	1,(M0)	1	5510	L	44
5.6G	VHT40	40	1,(M0)	1	5550	M	53
5.6G	VHT40	40	1,(M0)	1	5670	H	55

Band	Mode	BWch (MHz)	Nss-Min	Nant	Ch. (MHz)	Range	Power Setting
5.6G	VHT40	40	1,(M0)	1	5710	C	56
5.8G	VHT40	40	1,(M0)	1	5710	C	56
5.8G	VHT40	40	1,(M0)	1	5755	L	58
5.8G	VHT40	40	1,(M0)	1	5795	H	59
5.2G	VHT80	80	1,(M0)	1	5210	S	45
5.3G	VHT80	80	1,(M0)	1	5290	S	47
5.6G	VHT80	80	1,(M0)	1	5530	L	42
5.6G	VHT80	80	1,(M0)	1	5610	H	59
5.6G	VHT80	80	1,(M0)	1	5690	C	60
5.8G	VHT80	80	1,(M0)	1	5690	C	60
5.8G	VHT80	80	1,(M0)	1	5775	S	60
5.2G	11a	20	1	2	5180	L	49/51
5.2G	11a	20	1	2	5200	M	57/59
5.2G	11a	20	1	2	5240	H	51/53
5.3G	11a	20	1	2	5260	L	57/59
5.3G	11a	20	1	2	5300	M	58/59
5.3G	11a	20	1	2	5320	H	51/51
5.6G	11a	20	1	2	5500	L	44/47
5.6G	11a	20	1	2	5580	M	59/59
5.6G	11a	20	1	2	5700	H	45/42
5.6G	11a	20	1	2	5720	C	63/50
5.8G	11a	20	1	2	5720	C	63/50
5.8G	11a	20	1	2	5745	L	59/58
5.8G	11a	20	1	2	5785	M	59/58
5.8G	11a	20	1	2	5825	H	59/58
5.2G	VHT20,BF	20	1,(M0)	2	5180	L	33/37
5.2G	VHT20,BF	20	1,(M0)	2	5200	M	3C/3F
5.2G	VHT20,BF	20	1,(M0)	2	5240	H	3D/3F
5.3G	VHT20,BF	20	1,(M0)	2	5260	L	3D/3F
5.3G	VHT20,BF	20	1,(M0)	2	5300	M	3D/3F
5.3G	VHT20,BF	20	1,(M0)	2	5320	H	33/34
5.6G	VHT20,BF	20	1,(M0)	2	5500	L	2D/32
5.6G	VHT20,BF	20	1,(M0)	2	5580	M	3B/3F
5.6G	VHT20,BF	20	1,(M0)	2	5700	H	2E/2C
5.6G	VHT20,BF	20	1,(M0)	2	5720	C	3F/32
5.8G	VHT20,BF	20	1,(M0)	2	5720	C	3F/3F
5.8G	VHT20,BF	20	1,(M0)	2	5745	L	3F/3E

Band	Mode	BWch (MHz)	Nss-Min	Nant	Ch. (MHz)	Range	Power Setting
5.8G	VHT20,BF	20	1,(M0)	2	5785	M	3F/3F
5.8G	VHT20,BF	20	1,(M0)	2	5825	H	3F/3F
5.2G	VHT40,BF	40	1,(M0)	2	5190	L	25/2A
5.2G	VHT40,BF	40	1,(M0)	2	5230	H	34/3F
5.3G	VHT40,BF	40	1,(M0)	2	5270	L	38/3F
5.3G	VHT40,BF	40	1,(M0)	2	5310	H	29/2A
5.6G	VHT40,BF	40	1,(M0)	2	5510	L	24/28
5.6G	VHT40,BF	40	1,(M0)	2	5550	M	3B/3F
5.6G	VHT40,BF	40	1,(M0)	2	5670	H	31/2F
5.6G	VHT40,BF	40	1,(M0)	2	5710	C	3F/32
5.8G	VHT40,BF	40	1,(M0)	2	5710	C	3F/32
5.8G	VHT40,BF	40	1,(M0)	2	5755	L	3F/3D
5.8G	VHT40,BF	40	1,(M0)	2	5795	H	3F/3B
5.2G	VHT80,BF	80	1,(M0)	2	5210	S	23/27
5.3G	VHT80,BF	80	1,(M0)	2	5290	S	25/28
5.6G	VHT80,BF	80	1,(M0)	2	5530	L	24/27
5.6G	VHT80,BF	80	1,(M0)	2	5610	H	32/30
5.6G	VHT80,BF	80	1,(M0)	2	5690	C	3F/34
5.8G	VHT80,BF	80	1,(M0)	2	5690	C	3F/34
5.8G	VHT80,BF	80	1,(M0)	2	5775	S	3F/3D

3.11. EUT Operation during Test

For non-beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

For beamforming mode:

For Conducted Mode:

The EUT was programmed to be in continuously transmitting mode.

For Radiated Mode:

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

The program was executed as follows:

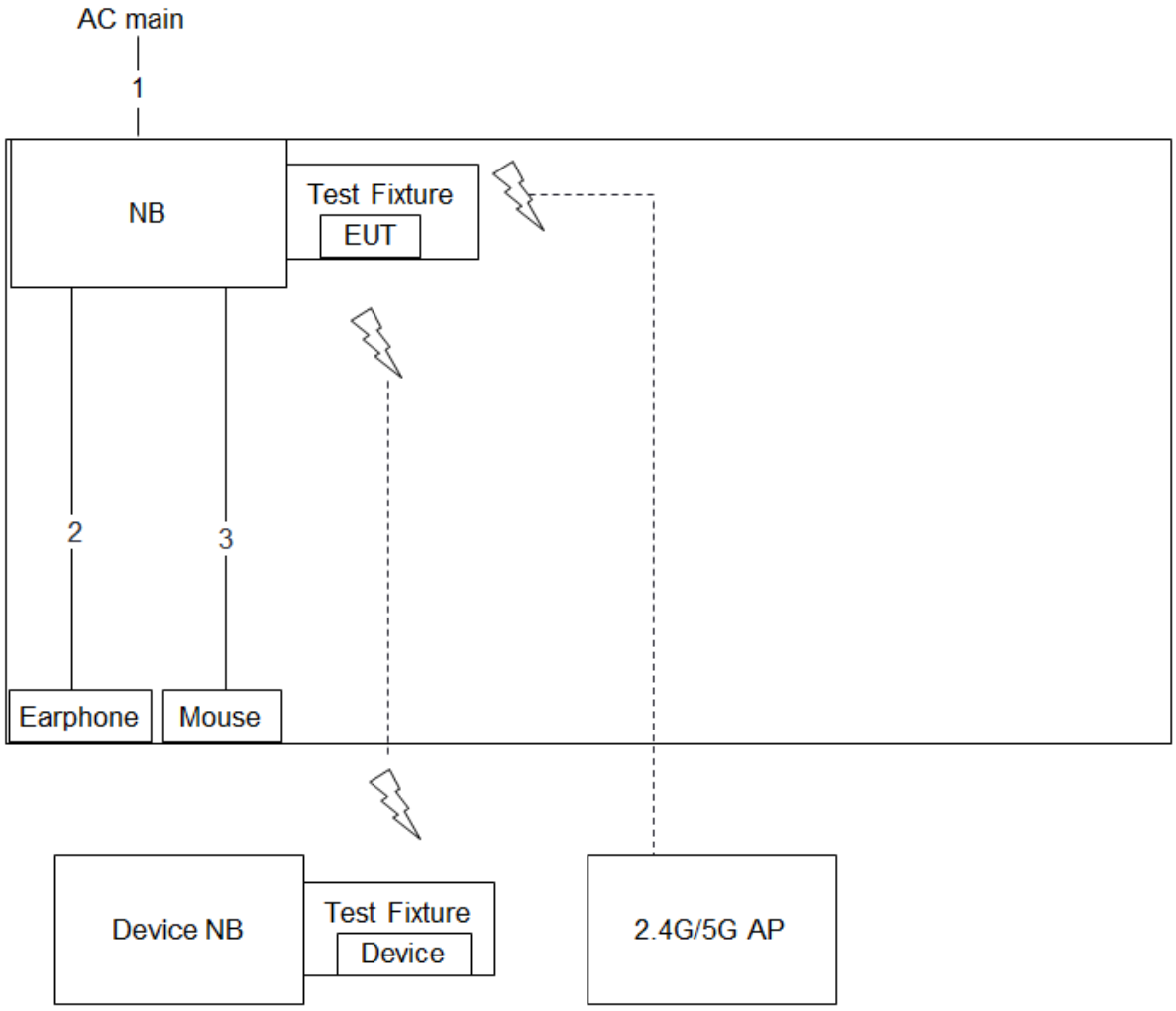
1. During the test, the EUT operation to normal function.
2. Executed command fixed test channel under WlanCLI.
3. Executed "Lantest.exe " to link with the remote workstation to receive and transmit packet by RX Device and transmit duty cycle no less 98%

3.12. Duty Cycle

Mode	DC	T(s)	VBW(Hz) ≥ 1/T
11a	0.998	n/a (DC>=0.98)	n/a (DC>=0.98)
VHT20	0.996	n/a (DC>=0.98)	n/a (DC>=0.98)
VHT20,BF	0.997	n/a (DC>=0.98)	n/a (DC>=0.98)
VHT40	0.994	n/a (DC>=0.98)	n/a (DC>=0.98)
VHT40,BF	0.994	n/a (DC>=0.98)	n/a (DC>=0.98)
VHT80	0.989	n/a (DC>=0.98)	n/a (DC>=0.98)
VHT80,BF	0.989	n/a (DC>=0.98)	n/a (DC>=0.98)

3.13. Test Configurations

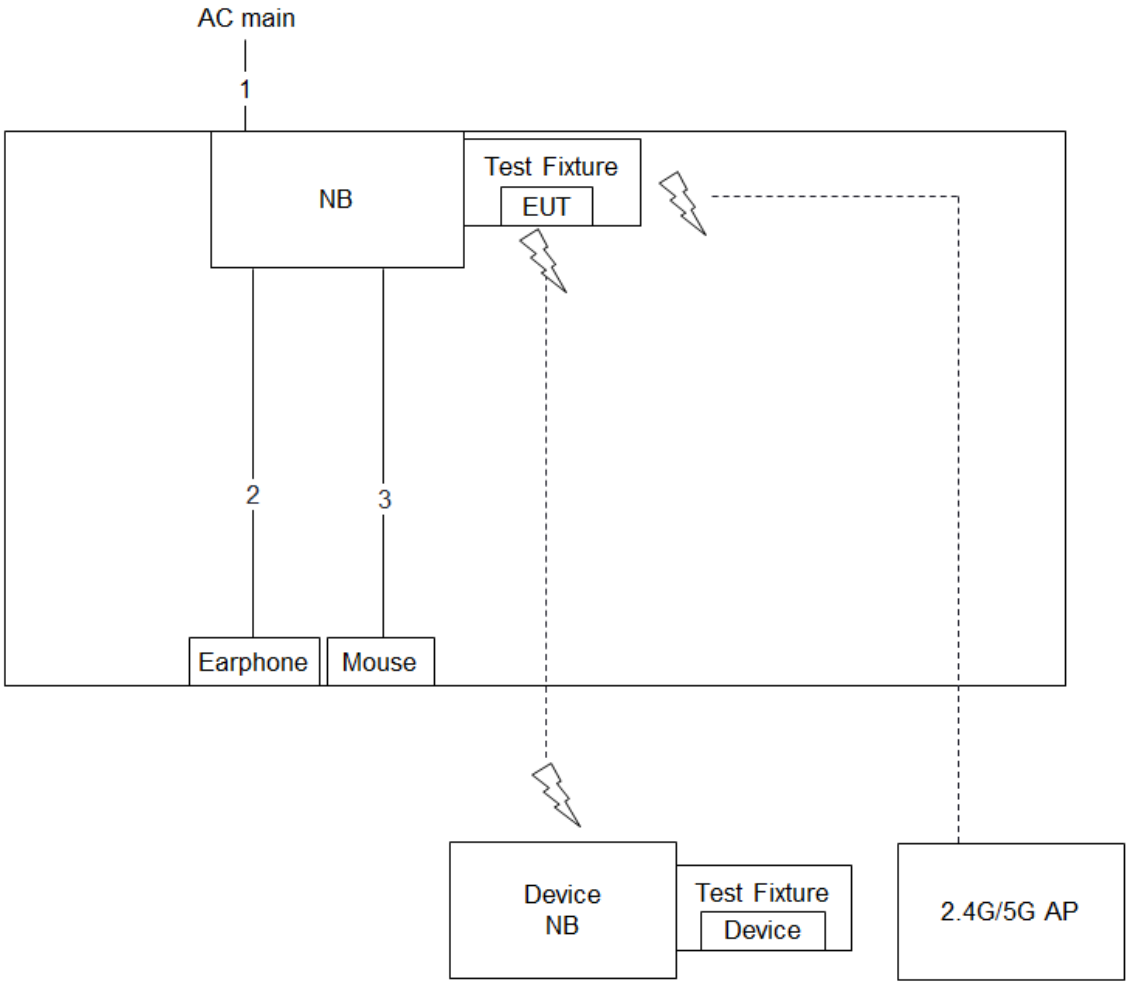
3.13.1. AC Power Line Conduction Emissions Test Configuration



Item	Connection	Shielded	Length
1	Power cable	No	2.6m
2	Audio cable	No	1.5m
3	USB cable	Yes	1.8m

3.13.2. Radiation Emissions Test Configuration

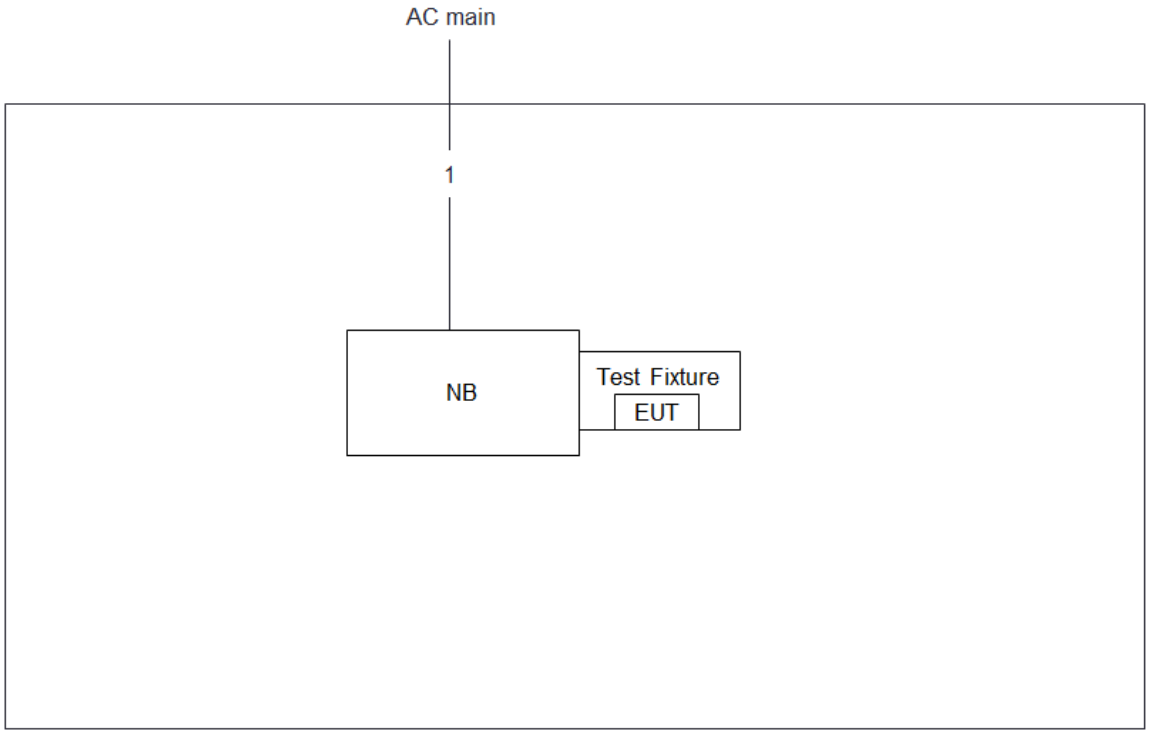
Test Configuration: 30MHz ~1GHz



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

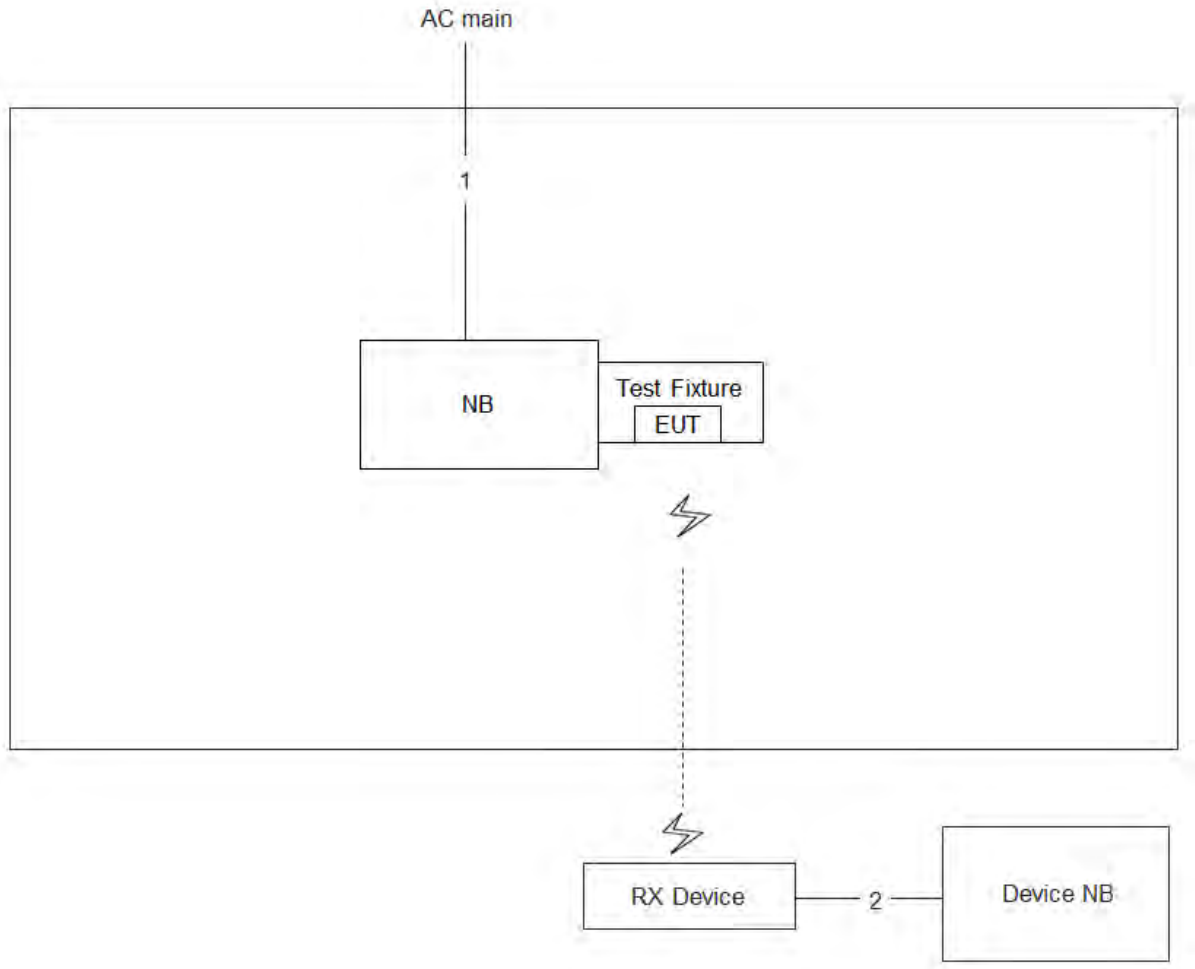
Test Configuration: above 1GHz

<For Non-Beamforming Mode>



Item	Connection	Shielded	Length
1	Power cable	No	2.6m

<For Beamforming Mode>



Item	Connection	Shielded	Length
1	Power cable	No	2.6m
2	RJ-45 cable	No	1.5m

4. TEST RESULT

4.1. AC Power Line Conducted Emissions Measurement

4.1.1. Limit

For this product that is designed to connect to the AC power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed below limits table.

Frequency (MHz)	QP Limit (dBuV)	AV Limit (dBuV)
0.15~0.5	66~56	56~46
0.5~5	56	46
5~30	60	50

4.1.2. Measuring Instruments and Setting

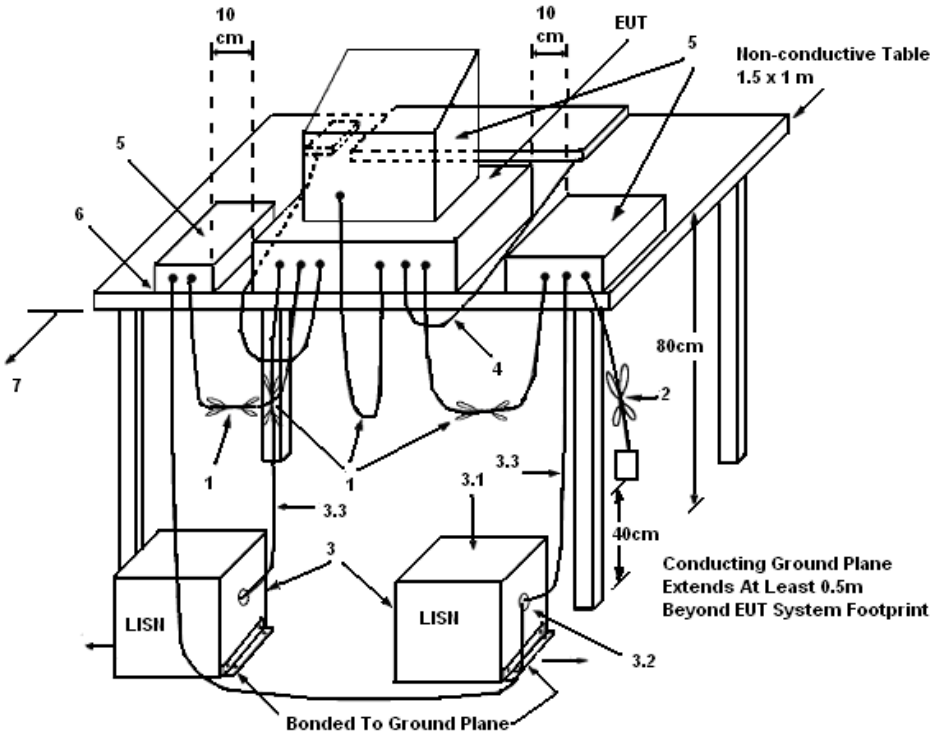
Please refer to section 5 of equipments list in this report. The following table is the setting of the receiver.

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

4.1.3. Test Procedures

1. Configure the EUT according to ANSI C63.10. The EUT or host of EUT has to be placed 0.4 meter far from the conducting wall of the shielding room and at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT or host of EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connected to the other LISNs. The LISN should provide 50uH/50ohms coupling impedance.
4. The frequency range from 150 kHz to 30 MHz was searched.
5. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. The measurement has to be done between each power line and ground at the power terminal.

4.1.4. Test Setup Layout



LEGEND:

(1) Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

(2) I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

(3) EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω. LISN can be placed on top of, or immediately beneath, reference ground plane.

(3.1) All other equipment powered from additional LISN(s).

(3.2) Multiple outlet strip can be used for multiple power cords of non-EUT equipment.

(3.3) LISN at least 80 cm from nearest part of EUT chassis.

(4) Cables of hand-operated devices, such as keyboards, mice, etc., shall be placed as for normal use.

(5) Non-EUT components of EUT system being tested.

(6) Rear of EUT, including peripherals, shall all be aligned and flush with rear of tabletop.

(7) Rear of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.

4.1.5. Test Deviation

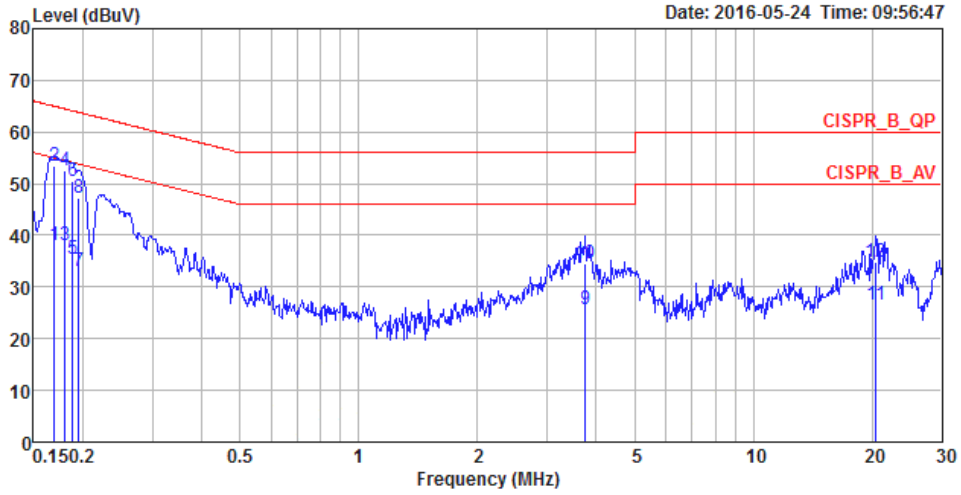
There is no deviation with the original standard.

4.1.6. EUT Operation during Test

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

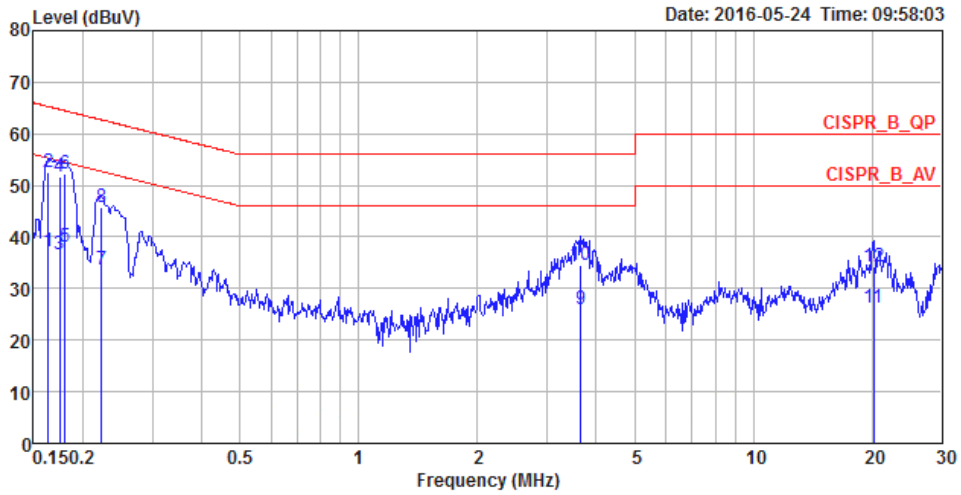
4.1.7. Results of AC Power Line Conducted Emissions Measurement

Temperature	23℃	Humidity	60%
Test Engineer	Deven Huang	Phase	Line
Configuration	Normal Link / Mode 1		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1694	38.03	-16.96	54.99	27.99	10.02	0.02	LINE	Average
2	0.1694	53.36	-11.63	64.99	43.32	10.02	0.02	LINE	QP
3	0.1806	38.09	-16.37	54.46	28.15	9.92	0.02	LINE	Average
4	0.1806	52.41	-12.05	64.46	42.47	9.92	0.02	LINE	QP
5	0.1884	35.48	-18.63	54.11	25.54	9.92	0.02	LINE	Average
6	0.1884	50.36	-13.75	64.11	40.42	9.92	0.02	LINE	QP
7	0.1955	32.96	-20.84	53.80	23.02	9.92	0.02	LINE	Average
8	0.1955	47.27	-16.53	63.80	37.33	9.92	0.02	LINE	QP
9	3.7594	25.56	-20.44	46.00	15.50	9.99	0.07	LINE	Average
10	3.7594	34.52	-21.48	56.00	24.46	9.99	0.07	LINE	QP
11	20.4855	26.67	-23.33	50.00	16.09	10.32	0.26	LINE	Average
12	20.4855	34.84	-25.16	60.00	24.26	10.32	0.26	LINE	QP

Temperature	23℃	Humidity	60%
Test Engineer	Deven Huang	Phase	Neutral
Configuration	Normal Link / Mode 1		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1633	37.31	-17.99	55.30	27.27	10.02	0.02	NEUTRAL	Average
2	0.1633	52.47	-12.83	65.30	42.43	10.02	0.02	NEUTRAL	QP
3	0.1749	36.55	-18.17	54.72	26.61	9.92	0.02	NEUTRAL	Average
4	0.1749	51.66	-13.06	64.72	41.72	9.92	0.02	NEUTRAL	QP
5	0.1806	38.09	-16.37	54.46	28.15	9.92	0.02	NEUTRAL	Average
6	0.1806	52.36	-12.10	64.46	42.42	9.92	0.02	NEUTRAL	QP
7	0.2232	33.77	-18.93	52.70	23.82	9.92	0.03	NEUTRAL	Average
8	0.2232	45.83	-16.87	62.70	35.88	9.92	0.03	NEUTRAL	QP
9	3.6611	25.98	-20.02	46.00	15.93	9.99	0.06	NEUTRAL	Average
10	3.6611	34.64	-21.36	56.00	24.59	9.99	0.06	NEUTRAL	QP
11	20.1625	26.20	-23.80	50.00	15.63	10.31	0.26	NEUTRAL	Average
12	20.1625	34.34	-25.66	60.00	23.77	10.31	0.26	NEUTRAL	QP

Note:

Level = Read Level + LISN Factor + Cable Loss

4.2. Emission Bandwidth

4.2.1. Emission Bandwidth Limit

Emission Bandwidth Limit	
UNII Devices	
☒	For the 5.15-5.25 GHz band, N/A
☒	For the 5.25-5.35 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz.
☒	For the 5.47-5.725 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz.
☒	For the 5.725-5.85 GHz band, 6 dB emission bandwidth ≥ 500kHz.
LE-LAN Devices	
☐	For the band 5.15-5.25 GHz, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.
☐	For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
☐	For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
☐	For the 5.725-5.85 GHz band, 6 dB emission bandwidth ≥ 500kHz.

4.2.2. Measuring Instruments

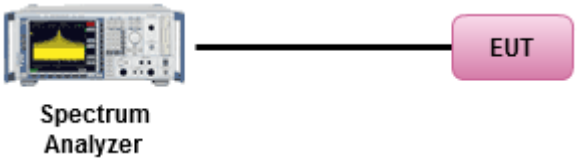
Refer a test equipment and calibration data table in this test report.

4.2.3. Test Procedures

Test Method		
▪	For the emission bandwidth shall be measured using one of the options below:	
	☒	Refer as FCC KDB 789033 D02 v01r02, clause C for EBW and clause D for OBW measurement.
	☐	Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.
	☒	Refer as IC RSS-Gen, clause 4.6 for bandwidth testing.

4.2.4. Test Setup

Emission Bandwidth



4.2.5. Test Result of Emission Bandwidth

Refer as Appendix A

4.3. Maximum Conducted Output Power

4.3.1. Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit	
UNII Devices	
☒	For the 5.15-5.25 GHz band:
	▪ Outdoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6). e.i.r.p. at any elevation angle above 30 degrees ≤ 125mW [21dBm]
	▪ Indoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6)
	▪ Point-to-point AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W If G_{TX} > 23 dBi, then P_{Out} = 30 – (G_{TX} – 23).
	▪ Mobile or Portable Client: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW. If G_{TX} > 6 dBi, then P_{Out} = 24 – (G_{TX} – 6).
☒	For the 5.25-5.35 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If G_{TX} > 6 dBi, then P_{Out} = 24 – (G_{TX} – 6).
☒	For the 5.47-5.725 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If G_{TX} > 6 dBi, then P_{Out} = 24 – (G_{TX} – 6).
☒	For the 5.725-5.85 GHz band:
	▪ Point-to-multipoint systems (P2M): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6).
	▪ Point-to-point systems (P2P): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W.
LE-LAN Devices	
☐	For the 5.15-5.25 GHz band, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.
☐	For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
☐	For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
☐	For the 5.725-5.85 GHz band:
	▪ Point-to-multipoint systems (P2M): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6).
	▪ Point-to-point systems (P2P): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W.
P_{Out} = maximum conducted output power in dBm, **G_{TX}** = the maximum transmitting antenna directional gain in dBi.	

4.3.2. Measuring Instruments

Refer a test equipment and calibration data table in this test report.

4.3.3. Test Procedures

Test Method	
▪ Maximum Conducted Output Power	
	[duty cycle ≥ 98% or external video / power trigger]
	☐ Refer as FCC KDB 789033 D02 v01r02, clause E Method SA-1 (spectral trace averaging).
	☐ Refer as FCC KDB 789033 D02 v01r02, clause E Method SA-1 Alt. (RMS detection with slow sweep speed)
	duty cycle < 98% and average over on/off periods with duty factor
	☐ Refer as FCC KDB 789033 D02 v01r02, clause E Method SA-2 (spectral trace averaging).
	☐ Refer as FCC KDB 789033 D02 v01r02, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
	Wideband RF power meter and average over on/off periods with duty factor
	☒ Refer as FCC KDB 789033 D02 v01r02, clause E Method PM-G (using an RF average power meter).
▪ For conducted measurement.	
	▪ If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.
	▪ If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \ldots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

4.3.4. Test Setup

RF Output Power (Power Meter)


4.3.5. Test Result of Maximum Conducted Output Power

Refer as Appendix B

4.4. Peak Power Spectral Density

4.4.1. Peak Power Spectral Density Limit

Peak Power Spectral Density Limit	
UNII Devices	
☒	For the 5.15-5.25 GHz band:
	▪ Outdoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If G_{TX} > 6 dBi, then P_{Out} = 17 – (G_{TX} – 6).
	▪ Indoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If G_{TX} > 6 dBi, then P_{Out} = 17 – (G_{TX} – 6).
	▪ Point-to-point AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If G_{TX} > 23 dBi, then P_{Out} = 17 – (G_{TX} – 23).
	▪ Mobile or Portable Client: the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If G_{TX} > 6 dBi, then PPSD= 11 – (G_{TX} – 6)..
☒	For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If G_{TX} > 6 dBi, then PPSD= 11 – (G_{TX} – 6).
☒	For the 5.47-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If G_{TX} > 6 dBi, then PPSD= 11 – (G_{TX} – 6).
☒	For the 5.725-5.85 GHz band:
	▪ Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If G_{TX} > 6 dBi, then PPSD= 30 – (G_{TX} – 6).
	▪ Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz.
LE-LAN Devices	
☐	For the 5.15-5.25 GHz band, the peak power spectral density (PPSD) ≤ 4 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) ≤ 10 dBm/MHz.
☐	For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) ≤ 17 dBm/MHz.
	▪ e.i.r.p. greater than 200 mW shall comply with the following e.i.r.p. at different elevations, where θ is the angle above the local horizontal plane (of the Earth) as shown below: -13 dBW/MHz for 0° ≤ θ < 8° ; -13 − 0.716 (θ-8) dBW/MHz for 8° ≤ θ < 40° -35.9 − 1.22 (θ-40) dBW/MHz for 40° ≤ θ ≤ 45° ; -42 dBW/MHz for θ > 45°
☐	For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) ≤ 17 dBm/MHz.
☐	For the 5.725-5.85 GHz band:
	▪ Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If G_{TX} > 6 dBi, then PPSD= 30 – (G_{TX} – 6).
	▪ Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz.
PPSD = peak power spectral density that he same method as used to determine the conducted output power shall be used to determine the power spectral density. And power spectral density in dBm/MHz **G_{TX}** = the maximum transmitting antenna directional gain in dBi.	

4.4.2. Measuring Instruments

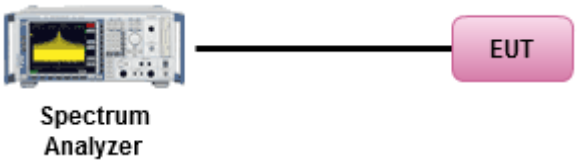
Refer a test equipment and calibration data table in this test report.

4.4.3. Test Procedures

Test Method		
▪ Peak power spectral density procedures that the same method as used to determine the conducted output power shall be used to determine the peak power spectral density and use the peak search function on the spectrum analyzer to find the peak of the spectrum. For the peak power spectral density shall be measured using below options:		
	☐	Refer as FCC KDB 789033 D02 v01r02, F)5) power spectral density can be measured using resolution bandwidths < 1 MHz provided that the results are integrated over 1 MHz bandwidth
	[duty cycle ≥ 98% or external video / power trigger]	
	☒	Refer as FCC KDB 789033 D02 v01r02, clause E Method SA-1 (spectral trace averaging).
	☐	Refer as FCC KDB 789033 D02 v01r02, clause E Method SA-1 Alt. (RMS detection with slow sweep speed)
	duty cycle < 98% and average over on/off periods with duty factor	
	☒	Refer as FCC KDB 789033 D02 v01r02, clause E Method SA-2 (spectral trace averaging).
	☐	Refer as FCC KDB 789033 D02 v01r02, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
▪ For conducted measurement.		
	▪ If the EUT supports multiple transmit chains using options given below:	
		☒ Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.
		☐ Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,
		☐ Option 3: Measure and add 10 log(N) dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with 10 log(N). Or each transmit chains shall be add 10 log(N) to compared with the limit.
	▪	If multiple transmit chains, EIRP PPSD calculation could be following as methods: $PPSD_{total} = PPSD_1 + PPSD_2 + \ldots + PPSD_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = PPSD_{total} + DG$

4.4.4. Test Setup

Power Spectral Density



4.4.5. Test Result of Peak Power Spectral Density

Refer as Appendix C

4.5. Radiated Emissions Measurement

4.5.1. 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 shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

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

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

4.5.2. Measuring Instruments and Setting

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

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

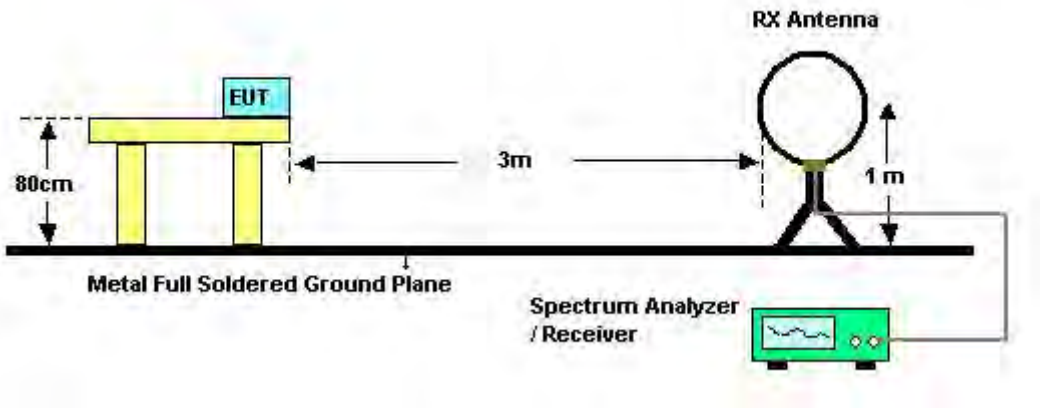
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RBW 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RBW 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RBW 120kHz for QP

4.5.3. Test Procedures

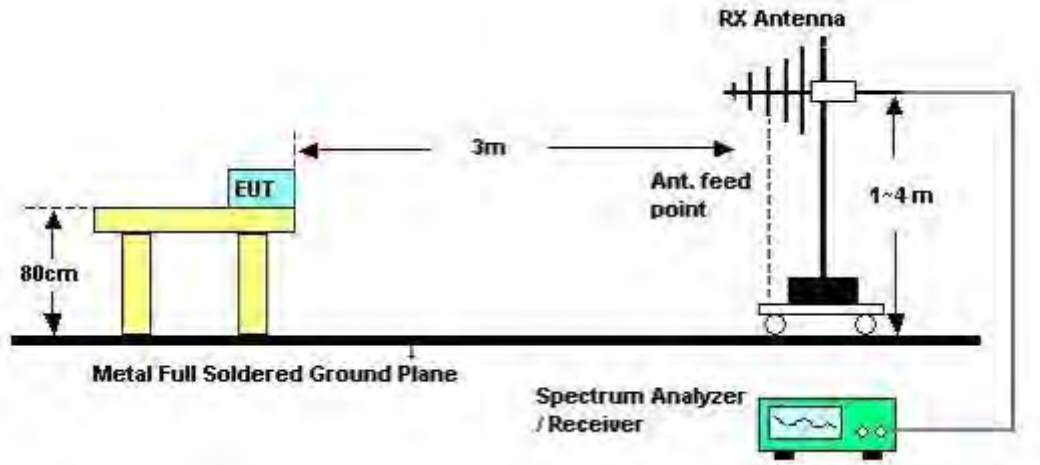
1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 1m & 3m far away from the turntable.
2. Power on the EUT and all the supporting 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.

4.5.4. Test Setup Layout

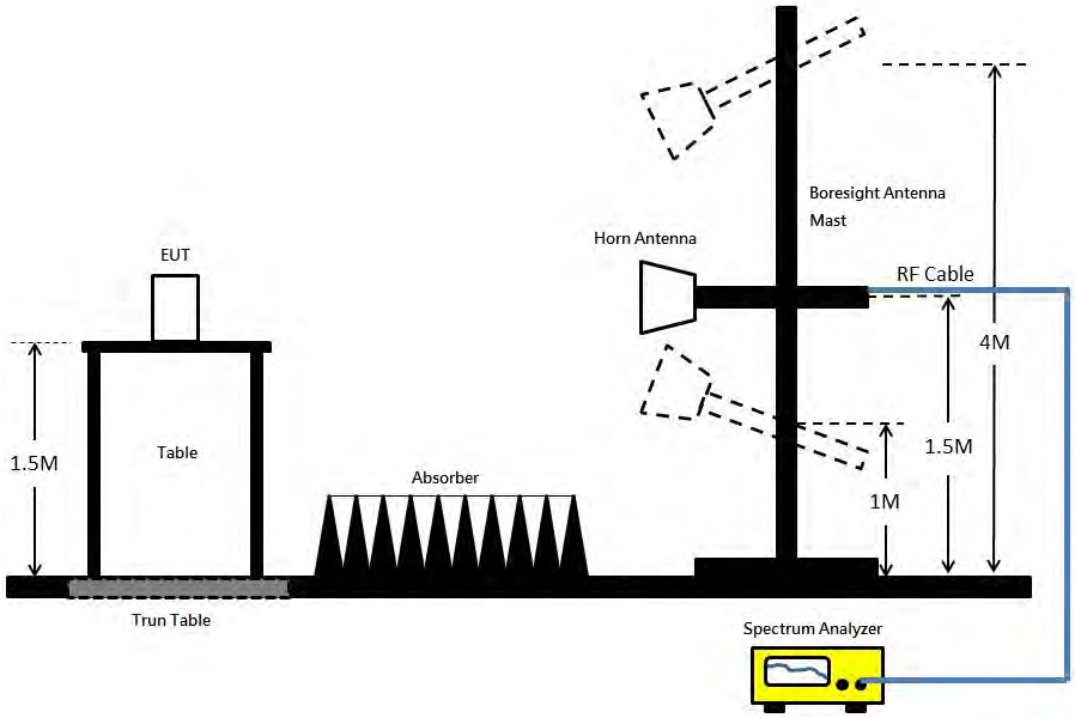
For Radiated Emissions: 9kHz ~30MHz



For Radiated Emissions: 30MHz~1GHz



For Radiated Emissions: Above 1GHz



4.5.5. Test Deviation

There is no deviation with the original standard.

4.5.6. EUT Operation during Test

For Non-beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

For beamforming mode:

The EUT was programmed to be in beamforming transmitting mode.

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

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	Normal Link / Mode 4 and Mode 5
Test Date	Jun. 21, 2016		

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

Note:

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

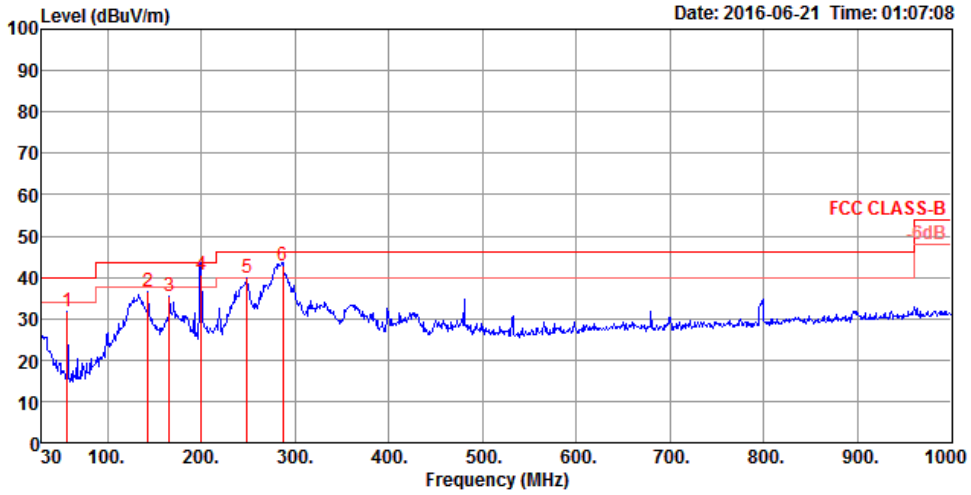
Distance extrapolation factor = 40 log (specific distance / test distance) (dB);

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

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

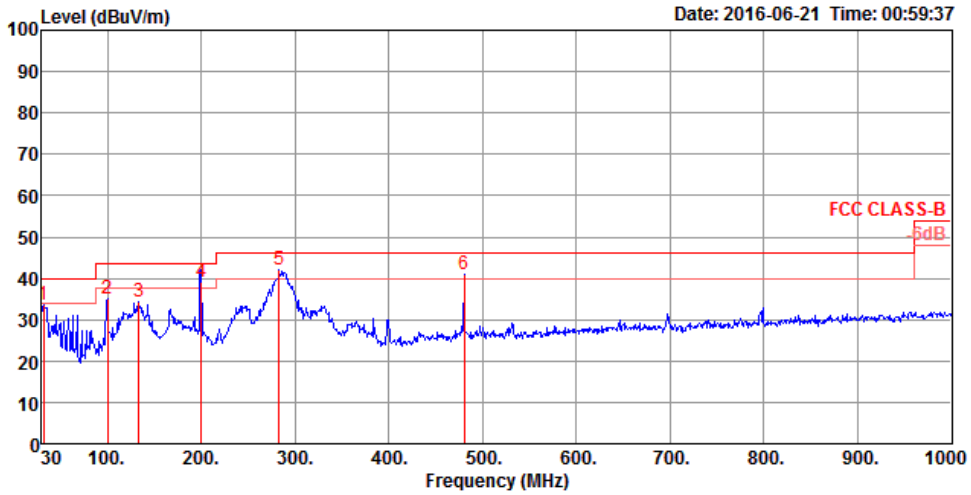
Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	Normal Link / Mode 4

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	57.16	31.71	40.00	-8.29	49.43	0.67	14.02	32.41	150	244	Peak	HORIZONTAL
2	143.49	36.42	43.50	-7.08	49.87	1.02	17.89	32.36	200	169	Peak	HORIZONTAL
3	165.80	35.28	43.50	-8.22	49.80	1.11	16.72	32.35	200	154	Peak	HORIZONTAL
4	199.75	40.49	43.50	-3.01	54.90	1.22	16.70	32.33	150	181	QP	HORIZONTAL
5	249.22	39.72	46.00	-6.28	51.64	1.34	19.04	32.30	125	174	Peak	HORIZONTAL
6	287.05	42.96	46.00	-3.04	54.03	1.45	19.77	32.29	200	211	QP	HORIZONTAL

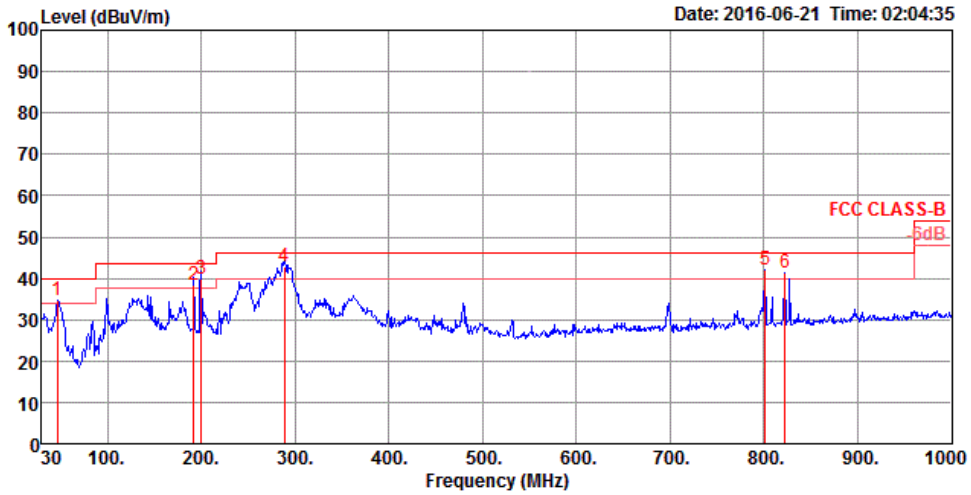
Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	31.94	33.54	40.00	-6.46	40.78	0.50	24.66	32.40	100	213	Peak	VERTICAL
2	99.84	35.20	43.50	-8.30	49.13	0.86	17.60	32.39	100	56	Peak	VERTICAL
3	133.79	34.15	43.50	-9.35	46.95	0.99	18.57	32.36	100	186	Peak	VERTICAL
4	199.75	39.11	43.50	-4.39	53.52	1.22	16.70	32.33	100	102	QP	VERTICAL
5	283.17	42.24	46.00	-3.76	53.37	1.43	19.73	32.29	200	155	Peak	VERTICAL
6	480.08	40.82	46.00	-5.18	47.56	1.90	23.71	32.35	100	196	Peak	VERTICAL

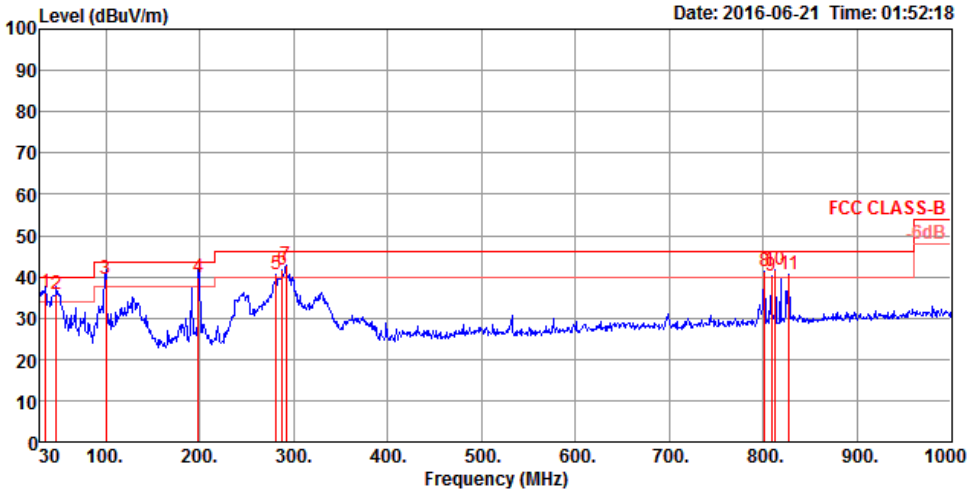
Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	Normal Link / Mode 5

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	46.49	34.75	40.00	-5.25	50.12	0.60	16.44	32.41	200	56	Peak	HORIZONTAL
2	191.99	38.41	43.50	-5.09	53.40	1.20	16.14	32.33	125	24	QP	HORIZONTAL
3	199.75	40.01	43.50	-3.49	54.42	1.22	16.70	32.33	200	16	QP	HORIZONTAL
4	288.99	42.78	46.00	-3.22	53.83	1.45	19.79	32.29	125	214	QP	HORIZONTAL
5	801.15	41.95	46.00	-4.05	44.90	2.46	26.83	32.24	125	67	Peak	HORIZONTAL
6	822.49	41.16	46.00	-4.84	43.72	2.49	27.07	32.12	125	101	Peak	HORIZONTAL

Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	35.82	36.13	40.00	-3.87	45.28	0.52	22.73	32.40	100	306	QP	VERTICAL
2	47.46	35.78	40.00	-4.22	51.58	0.61	16.00	32.41	125	185	QP	VERTICAL
3	99.84	39.45	43.50	-4.05	53.38	0.86	17.60	32.39	100	316	QP	VERTICAL
4	198.78	39.89	43.50	-3.61	54.39	1.22	16.61	32.33	200	233	QP	VERTICAL
5	281.23	40.67	46.00	-5.33	51.82	1.43	19.71	32.29	200	195	Peak	VERTICAL
6	288.02	41.72	46.00	-4.28	52.78	1.45	19.78	32.29	150	187	Peak	VERTICAL
7	291.90	42.74	46.00	-3.26	53.72	1.46	19.84	32.28	200	188	Peak	VERTICAL
8	801.15	41.25	46.00	-4.75	44.20	2.46	26.83	32.24	150	157	Peak	VERTICAL
9	808.91	40.25	46.00	-5.75	43.05	2.47	26.93	32.20	150	355	Peak	VERTICAL
10	812.79	41.69	46.00	-4.31	44.42	2.48	26.97	32.18	125	271	Peak	VERTICAL
11	827.34	40.63	46.00	-5.37	43.11	2.49	27.13	32.10	100	324	Peak	VERTICAL

Note:

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

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

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

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

Dipole Antenna

<For Non-Beamforming / 1TX Mode>

Temperature	22℃	**Humidity**	54%
Test Engineer	Gino Huang	**Configurations**	IEEE 802.11a CH 36 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15537.69	47.02	54.00	-6.98	32.49	11.01	38.39	34.87	160	312	Average	HORIZONTAL
2	15538.91	59.21	74.00	-14.79	44.68	11.01	38.39	34.87	160	312	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15540.76	46.19	54.00	-7.81	31.66	11.01	38.39	34.87	194	222	Average	VERTICAL
2	15541.35	60.38	74.00	-13.62	45.85	11.01	38.39	34.87	194	222	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11a CH 40 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15598.99	47.99	54.00	-6.01	33.47	11.01	38.38	34.87	188	37	Average	HORIZONTAL
2	15599.13	61.53	74.00	-12.47	47.01	11.01	38.38	34.87	188	37	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15598.63	47.20	54.00	-6.80	32.68	11.01	38.38	34.87	222	4	Average	VERTICAL
2	15601.65	60.49	74.00	-13.51	45.98	11.01	38.37	34.87	222	4	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11a CH 48 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15720.88	45.56	54.00	-8.44	30.68	11.27	38.42	34.81	166	224	Average	HORIZONTAL
2	15722.74	59.00	74.00	-15.00	44.12	11.27	38.42	34.81	166	224	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15717.22	47.94	54.00	-6.06	33.06	11.27	38.42	34.81	167	248	Average	VERTICAL
2	15717.44	60.60	74.00	-13.40	45.72	11.27	38.42	34.81	167	248	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11a CH 52 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10518.38	60.57	74.00	-13.43	47.32	9.75	38.50	35.00	100	285	Peak	HORIZONTAL
2	10520.32	45.87	54.00	-8.13	32.62	9.75	38.50	35.00	100	285	Average	HORIZONTAL
3	15779.08	45.88	54.00	-8.12	30.96	11.29	38.48	34.85	102	301	Average	HORIZONTAL
4	15784.62	59.13	74.00	-14.87	44.13	11.30	38.55	34.85	140	302	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10517.92	48.57	54.00	-5.43	35.32	9.75	38.50	35.00	116	359	Average	VERTICAL
2	10520.80	63.15	74.00	-10.85	49.90	9.75	38.50	35.00	116	359	Peak	VERTICAL
3	15765.12	58.63	74.00	-15.37	43.71	11.29	38.48	34.85	173	355	Peak	VERTICAL
4	15784.72	46.14	54.00	-7.86	31.14	11.30	38.55	34.85	173	355	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11a CH 60 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10596.60	58.55	74.00	-15.45	42.98	10.52	38.98	33.93	156	55	Peak	HORIZONTAL
2	10601.64	45.02	54.00	-8.98	29.45	10.52	38.98	33.93	156	55	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10596.28	65.22	74.00	-8.78	49.65	10.52	38.98	33.93	158	209	Peak	VERTICAL
2	10599.92	50.89	54.00	-3.11	35.32	10.52	38.98	33.93	158	209	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11a CH 64 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10639.80	44.23	54.00	-9.77	28.71	10.52	39.00	34.00	234	330	Average	HORIZONTAL
2	10641.22	57.60	74.00	-16.40	42.08	10.52	39.00	34.00	234	330	Peak	HORIZONTAL
3	15958.96	44.28	54.00	-9.72	29.87	11.01	38.31	34.91	215	50	Average	HORIZONTAL
4	15958.96	58.09	74.00	-15.91	43.68	11.01	38.31	34.91	215	50	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10639.99	50.65	54.00	-3.35	35.13	10.52	39.00	34.00	183	336	Average	VERTICAL
2	10642.37	66.72	74.00	-7.28	51.20	10.52	39.00	34.00	183	336	Peak	VERTICAL
3	15958.75	46.00	54.00	-8.00	31.59	11.01	38.31	34.91	215	21	Average	VERTICAL
4	15962.12	59.59	74.00	-14.41	45.18	11.01	38.31	34.91	215	21	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11a CH 100 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10998.66	58.89	74.00	-15.11	43.44	10.51	39.30	34.36	198	37	Peak	HORIZONTAL
2	10999.70	45.28	54.00	-8.72	29.83	10.51	39.30	34.36	198	37	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11000.18	50.57	54.00	-3.43	35.12	10.51	39.30	34.36	160	29	Average	VERTICAL
2	11002.33	67.09	74.00	-6.91	51.64	10.51	39.30	34.36	160	29	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11a CH 116 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11157.50	55.83	74.00	-18.17	42.32	9.66	38.50	34.65	111	236	Peak	HORIZONTAL
2	11162.10	44.05	54.00	-9.95	30.54	9.66	38.50	34.65	111	236	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11159.70	50.56	54.00	-3.44	37.05	9.66	38.50	34.65	100	179	Average	VERTICAL
2	11160.70	63.32	74.00	-10.68	49.81	9.66	38.50	34.65	100	179	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11a CH 140 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11396.04	59.32	74.00	-14.68	44.16	10.51	39.22	34.57	150	12	Peak	HORIZONTAL
2	11396.36	45.71	54.00	-8.29	30.57	10.51	39.22	34.59	150	12	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11396.12	59.53	74.00	-14.47	44.37	10.51	39.22	34.57	152	236	Peak	VERTICAL
2	11397.16	45.59	54.00	-8.41	30.45	10.51	39.22	34.59	152	236	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11a CH 149 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11490.25	46.58	54.00	-7.42	31.50	10.51	39.20	34.63	200	19	Average	HORIZONTAL
2	11491.65	59.67	74.00	-14.33	44.59	10.51	39.20	34.63	200	19	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11490.03	50.90	54.00	-3.10	35.82	10.51	39.20	34.63	241	56	Average	VERTICAL
2	11492.27	64.82	74.00	-9.18	49.74	10.51	39.20	34.63	241	56	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11a CH 157 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11570.27	57.64	74.00	-16.36	42.63	10.51	39.15	34.65	216	6	Peak	HORIZONTAL
2	11571.72	44.84	54.00	-9.16	29.83	10.51	39.15	34.65	216	6	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11570.04	50.68	54.00	-3.32	35.67	10.51	39.15	34.65	225	59	Average	VERTICAL
2	11571.74	64.62	74.00	-9.38	49.61	10.51	39.15	34.65	225	59	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11a CH 165 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11650.00	45.37	54.00	-8.63	30.43	10.51	39.09	34.66	215	3	Average	HORIZONTAL
2	11651.86	58.41	74.00	-15.59	43.49	10.51	39.07	34.66	215	3	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11649.92	50.71	54.00	-3.29	35.77	10.51	39.09	34.66	228	332	Average	VERTICAL
2	11651.70	64.78	74.00	-9.22	49.86	10.51	39.07	34.66	228	332	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15531.48	61.19	74.00	-12.81	43.86	12.95	38.25	33.87	173	217	Peak	HORIZONTAL
2	15536.48	47.83	54.00	-6.17	30.50	12.95	38.25	33.87	173	217	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15541.24	47.97	54.00	-6.03	30.64	12.95	38.25	33.87	108	92	Average	VERTICAL
2	15548.56	61.62	74.00	-12.38	44.29	12.95	38.25	33.87	108	92	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 40 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15600.90	57.34	74.00	-16.66	42.83	11.01	38.37	34.87	208	25	Peak	HORIZONTAL
2	15601.95	44.21	54.00	-9.79	29.70	11.01	38.37	34.87	208	25	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15598.91	47.03	54.00	-6.97	32.51	11.01	38.38	34.87	196	14	Average	VERTICAL
2	15601.31	61.55	74.00	-12.45	47.04	11.01	38.37	34.87	196	14	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 48 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15721.80	59.13	74.00	-14.87	44.25	11.27	38.42	34.81	196	209	Peak	HORIZONTAL
2	15724.36	45.96	54.00	-8.04	31.08	11.27	38.42	34.81	196	209	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15718.20	46.47	54.00	-7.53	31.59	11.27	38.42	34.81	263	348	Average	VERTICAL
2	15727.76	59.17	74.00	-14.83	44.29	11.27	38.42	34.81	263	348	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 52 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10522.60	42.39	54.00	-11.61	29.14	9.75	38.50	35.00	143	224	Average	HORIZONTAL
2	10524.22	55.66	74.00	-18.34	42.41	9.75	38.50	35.00	143	224	Peak	HORIZONTAL
3	15775.98	46.27	54.00	-7.73	31.35	11.29	38.48	34.85	153	202	Average	HORIZONTAL
4	15779.12	59.47	74.00	-14.53	44.55	11.29	38.48	34.85	153	202	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10518.32	63.08	74.00	-10.92	49.83	9.75	38.50	35.00	121	182	Peak	VERTICAL
2	10519.36	49.25	54.00	-4.75	36.00	9.75	38.50	35.00	121	182	Average	VERTICAL
3	15775.98	46.27	54.00	-7.73	31.35	11.29	38.48	34.85	174	241	Average	VERTICAL
4	15781.78	60.06	74.00	-13.94	45.14	11.29	38.48	34.85	174	241	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 60 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10597.54	57.43	74.00	-16.57	41.86	10.52	38.98	33.93	198	45	Peak	HORIZONTAL
2	10598.98	44.70	54.00	-9.30	29.13	10.52	38.98	33.93	198	45	Average	HORIZONTAL
3	15897.99	44.67	54.00	-9.33	30.25	11.01	38.32	34.91	170	55	Average	HORIZONTAL
4	15902.16	57.41	74.00	-16.59	42.99	11.01	38.32	34.91	170	55	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10599.89	50.62	54.00	-3.38	35.05	10.52	38.98	33.93	191	57	Average	VERTICAL
2	10601.96	66.76	74.00	-7.24	51.19	10.52	38.98	33.93	191	57	Peak	VERTICAL
3	15900.95	57.36	74.00	-16.64	42.94	11.01	38.32	34.91	179	76	Peak	VERTICAL
4	15901.18	44.74	54.00	-9.26	30.32	11.01	38.32	34.91	179	76	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 64 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10631.56	56.27	74.00	-17.73	39.35	10.72	39.90	33.70	100	53	Peak	HORIZONTAL
2	10641.16	42.76	54.00	-11.24	25.85	10.72	39.90	33.71	100	53	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10632.48	61.46	74.00	-12.54	44.54	10.72	39.90	33.70	117	221	Peak	VERTICAL
2	10639.72	46.77	54.00	-7.23	29.86	10.72	39.90	33.71	117	221	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 100 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10999.72	46.66	54.00	-7.34	29.37	10.92	40.20	33.83	170	290	Average	HORIZONTAL
2	10999.80	60.41	74.00	-13.59	43.12	10.92	40.20	33.83	170	290	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10999.08	60.45	74.00	-13.55	43.16	10.92	40.20	33.83	120	345	Peak	VERTICAL
2	10999.84	46.88	54.00	-7.12	29.59	10.92	40.20	33.83	120	345	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 116 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11155.58	56.68	74.00	-17.32	43.17	9.66	38.50	34.65	177	250	Peak	HORIZONTAL
2	11159.96	43.61	54.00	-10.39	30.10	9.66	38.50	34.65	177	250	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11159.36	49.02	54.00	-4.98	35.51	9.66	38.50	34.65	318	92	Average	VERTICAL
2	11160.80	61.67	74.00	-12.33	48.16	9.66	38.50	34.65	318	92	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 140 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11395.92	60.01	74.00	-13.99	46.51	9.63	38.50	34.63	154	286	Peak	HORIZONTAL
2	11399.34	46.18	54.00	-7.82	32.68	9.63	38.50	34.63	154	286	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11396.38	59.82	74.00	-14.18	46.32	9.63	38.50	34.63	172	258	Peak	VERTICAL
2	11399.04	46.58	54.00	-7.42	33.08	9.63	38.50	34.63	172	258	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11489.64	60.11	74.00	-13.89	42.77	11.18	40.00	33.84	113	287	Peak	HORIZONTAL
2	11490.12	47.95	54.00	-6.05	30.61	11.18	40.00	33.84	113	287	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11489.60	50.91	54.00	-3.09	33.57	11.18	40.00	33.84	127	302	Average	VERTICAL
2	11492.84	64.95	74.00	-9.05	47.61	11.18	40.00	33.84	127	302	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11570.07	43.44	54.00	-10.56	28.43	10.51	39.15	34.65	202	189	Average	HORIZONTAL
2	11571.01	56.47	74.00	-17.53	41.46	10.51	39.15	34.65	202	189	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11568.03	65.11	74.00	-8.89	50.10	10.51	39.15	34.65	208	27	Peak	VERTICAL
2	11569.55	50.47	54.00	-3.53	35.46	10.51	39.15	34.65	208	27	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11648.00	61.80	74.00	-12.20	44.67	11.24	39.73	33.84	132	283	Peak	HORIZONTAL
2	11649.52	48.21	54.00	-5.79	31.08	11.24	39.73	33.84	132	283	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11645.36	60.25	74.00	-13.75	43.12	11.24	39.73	33.84	162	266	Peak	VERTICAL
2	11649.64	47.17	54.00	-6.83	30.04	11.24	39.73	33.84	162	266	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15569.96	57.92	74.00	-16.08	43.40	11.01	38.38	34.87	172	60	Peak	HORIZONTAL
2	15570.87	44.35	54.00	-9.65	29.83	11.01	38.38	34.87	172	60	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15567.79	56.86	74.00	-17.14	42.34	11.01	38.38	34.87	183	33	Peak	VERTICAL
2	15569.48	44.31	54.00	-9.69	29.79	11.01	38.38	34.87	183	33	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15688.32	45.66	54.00	-8.34	30.82	11.26	38.35	34.77	185	180	Average	HORIZONTAL
2	15691.28	58.78	74.00	-15.22	43.86	11.27	38.42	34.77	185	180	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15685.36	59.65	74.00	-14.35	44.81	11.26	38.35	34.77	198	210	Peak	VERTICAL
2	15688.72	46.04	54.00	-7.96	31.20	11.26	38.35	34.77	198	210	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 54 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10536.82	55.03	74.00	-18.97	41.76	9.75	38.50	34.98	155	115	Peak	HORIZONTAL
2	10544.50	41.89	54.00	-12.11	28.62	9.75	38.50	34.98	155	115	Average	HORIZONTAL
3	15813.00	46.60	54.00	-7.40	31.60	11.30	38.55	34.85	158	136	Average	HORIZONTAL
4	15817.74	59.15	74.00	-14.85	44.19	11.30	38.55	34.89	158	136	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10538.62	47.47	54.00	-6.53	34.20	9.75	38.50	34.98	183	72	Average	VERTICAL
2	10541.14	57.26	74.00	-16.74	43.99	9.75	38.50	34.98	183	72	Peak	VERTICAL
3	15823.14	60.46	74.00	-13.54	45.50	11.30	38.55	34.89	143	94	Peak	VERTICAL
4	15824.10	46.64	54.00	-7.36	31.68	11.30	38.55	34.89	143	94	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 62 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10620.71	43.64	54.00	-10.36	28.11	10.52	38.98	33.97	172	59	Average	HORIZONTAL
2	10622.50	57.77	74.00	-16.23	42.22	10.52	39.00	33.97	172	59	Peak	HORIZONTAL
3	15930.08	43.93	54.00	-10.07	29.52	11.01	38.31	34.91	196	56	Average	HORIZONTAL
4	15932.09	57.07	74.00	-16.93	42.66	11.01	38.31	34.91	196	56	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10618.33	57.24	74.00	-16.76	41.71	10.52	38.98	33.97	183	39	Peak	VERTICAL
2	10622.31	44.19	54.00	-9.81	28.64	10.52	39.00	33.97	183	39	Average	VERTICAL
3	15929.82	56.97	74.00	-17.03	42.56	11.01	38.31	34.91	173	82	Peak	VERTICAL
4	15929.92	44.33	54.00	-9.67	29.92	11.01	38.31	34.91	173	82	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 102 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11019.83	45.04	54.00	-8.96	29.59	10.51	39.30	34.36	197	62	Average	HORIZONTAL
2	11022.11	57.61	74.00	-16.39	42.16	10.51	39.30	34.36	197	62	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11018.14	56.76	74.00	-17.24	41.31	10.51	39.30	34.36	191	43	Peak	VERTICAL
2	11020.35	44.59	54.00	-9.41	29.14	10.51	39.30	34.36	191	43	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 110 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11098.46	56.78	74.00	-17.22	41.39	10.51	39.28	34.40	168	103	Peak	HORIZONTAL
2	11099.88	44.07	54.00	-9.93	28.68	10.51	39.28	34.40	168	103	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11099.86	50.10	54.00	-3.90	34.71	10.51	39.28	34.40	197	26	Average	VERTICAL
2	11100.71	62.58	74.00	-11.42	47.19	10.51	39.28	34.40	197	26	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 134 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11337.67	45.25	54.00	-8.75	30.06	10.51	39.23	34.55	173	63	Average	HORIZONTAL
2	11340.06	58.13	74.00	-15.87	42.94	10.51	39.23	34.55	173	63	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11340.02	50.88	54.00	-3.12	35.69	10.51	39.23	34.55	191	33	Average	VERTICAL
2	11340.30	63.59	74.00	-10.41	48.40	10.51	39.23	34.55	191	33	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 /Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11506.12	56.02	74.00	-17.98	40.94	10.51	39.20	34.63	200	3	Peak	HORIZONTAL
2	11512.40	43.77	54.00	-10.23	28.70	10.51	39.20	34.64	200	3	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11509.20	62.59	74.00	-11.41	47.52	10.51	39.20	34.64	225	56	Peak	VERTICAL
2	11509.86	50.73	54.00	-3.27	35.66	10.51	39.20	34.64	225	56	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11590.02	44.50	54.00	-9.50	29.53	10.51	39.12	34.66	217	18	Average	HORIZONTAL
2	11593.10	55.50	74.00	-18.50	40.53	10.51	39.12	34.66	217	18	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11589.94	50.50	54.00	-3.50	35.53	10.51	39.12	34.66	232	57	Average	VERTICAL
2	11590.30	62.90	74.00	-11.10	47.93	10.51	39.12	34.66	232	57	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15627.38	43.70	54.00	-10.30	29.20	11.01	38.37	34.88	185	122	Average	HORIZONTAL
2	15634.30	55.72	74.00	-18.28	41.22	11.01	38.37	34.88	185	122	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15627.52	44.04	54.00	-9.96	29.54	11.01	38.37	34.88	198	70	Average	VERTICAL
2	15633.64	56.80	74.00	-17.20	42.30	11.01	38.37	34.88	198	70	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 58 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15866.44	43.35	54.00	-10.65	28.91	11.01	38.33	34.90	182	292	Average	HORIZONTAL
2	15866.92	55.93	74.00	-18.07	41.49	11.01	38.33	34.90	182	292	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15872.56	43.01	54.00	-10.99	28.58	11.01	38.33	34.91	194	78	Average	VERTICAL
2	15874.10	55.96	74.00	-18.04	41.54	11.01	38.32	34.91	194	78	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 106 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11057.62	57.11	74.00	-16.89	41.69	10.51	39.29	34.38	182	141	Peak	HORIZONTAL
2	11059.06	43.91	54.00	-10.09	28.49	10.51	39.29	34.38	182	141	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11055.06	56.77	74.00	-17.23	41.35	10.51	39.29	34.38	195	61	Peak	VERTICAL
2	11059.58	43.95	54.00	-10.05	28.53	10.51	39.29	34.38	195	61	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 122 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11220.20	41.34	54.00	-12.66	27.82	9.66	38.50	34.64	126	304	Average	HORIZONTAL
2	11223.14	54.73	74.00	-19.27	41.22	9.65	38.50	34.64	126	304	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11219.28	56.68	74.00	-17.32	43.16	9.66	38.50	34.64	148	345	Peak	VERTICAL
2	11220.24	45.09	54.00	-8.91	31.57	9.66	38.50	34.64	148	345	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11548.46	56.33	74.00	-17.67	41.30	10.51	39.17	34.65	198	148	Peak	HORIZONTAL
2	11550.82	43.33	54.00	-10.67	28.32	10.51	39.15	34.65	198	148	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11548.78	59.12	74.00	-14.88	44.09	10.51	39.17	34.65	201	30	Peak	VERTICAL
2	11549.24	46.14	54.00	-7.86	31.11	10.51	39.17	34.65	201	30	Average	VERTICAL

<For Non-Beamforming / 2TX Mode>

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11a CH 36 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15539.58	59.71	74.00	-14.29	44.96	11.23	38.16	34.64	154	212	Peak	HORIZONTAL
2	15541.08	46.28	54.00	-7.72	31.53	11.23	38.16	34.64	154	212	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15541.12	46.41	54.00	-7.59	31.66	11.23	38.16	34.64	150	240	Average	VERTICAL
2	15541.36	59.57	74.00	-14.43	44.82	11.23	38.16	34.64	150	240	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11a CH 40 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15590.52	46.14	54.00	-7.86	31.35	11.24	38.23	34.68	165	326	Average	HORIZONTAL
2	15605.48	59.73	74.00	-14.27	44.87	11.25	38.29	34.68	165	326	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15590.68	46.34	54.00	-7.66	31.55	11.24	38.23	34.68	150	355	Average	VERTICAL
2	15598.64	58.88	74.00	-15.12	44.09	11.24	38.23	34.68	150	355	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11a CH 48 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15713.96	45.35	54.00	-8.65	30.47	11.27	38.42	34.81	158	187	Average	HORIZONTAL
2	15718.84	58.72	74.00	-15.28	43.84	11.27	38.42	34.81	158	187	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15723.00	58.19	74.00	-15.81	43.31	11.27	38.42	34.81	162	214	Peak	VERTICAL
2	15726.52	45.64	54.00	-8.36	30.76	11.27	38.42	34.81	162	214	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11a CH 52 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15780.16	45.82	54.00	-8.18	30.90	11.29	38.48	34.85	158	195	Average	HORIZONTAL
2	15788.92	59.90	74.00	-14.10	44.90	11.30	38.55	34.85	158	195	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15778.20	58.94	74.00	-15.06	44.02	11.29	38.48	34.85	160	244	Peak	VERTICAL
2	15785.84	45.97	54.00	-8.03	30.97	11.30	38.55	34.85	160	244	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11a CH 60 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10601.48	59.91	74.00	-14.09	46.62	9.74	38.50	34.95	169	291	Peak	HORIZONTAL
2	10601.84	45.66	54.00	-8.34	32.37	9.74	38.50	34.95	169	291	Average	HORIZONTAL
3	15900.08	48.21	54.00	-5.79	33.16	11.32	38.67	34.94	159	216	Average	HORIZONTAL
4	15900.40	60.68	74.00	-13.32	45.63	11.32	38.67	34.94	159	216	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10600.36	48.61	54.00	-5.39	35.32	9.74	38.50	34.95	171	331	Average	VERTICAL
2	10601.36	62.17	74.00	-11.83	48.88	9.74	38.50	34.95	171	331	Peak	VERTICAL
3	15902.64	47.98	54.00	-6.02	32.93	11.32	38.67	34.94	163	262	Average	VERTICAL
4	15907.36	60.50	74.00	-13.50	45.45	11.32	38.67	34.94	163	262	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11a CH 64 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10641.08	41.76	54.00	-12.24	28.43	9.73	38.50	34.90	172	268	Average	HORIZONTAL
2	10648.84	55.14	74.00	-18.86	41.81	9.73	38.50	34.90	172	268	Peak	HORIZONTAL
3	15959.60	60.94	74.00	-13.06	45.85	11.33	38.74	34.98	169	236	Peak	HORIZONTAL
4	15964.88	47.57	54.00	-6.43	32.48	11.33	38.74	34.98	169	236	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10640.28	46.42	54.00	-7.58	33.09	9.73	38.50	34.90	238	103	Average	VERTICAL
2	10642.72	59.52	74.00	-14.48	46.19	9.73	38.50	34.90	238	103	Peak	VERTICAL
3	15951.80	47.73	54.00	-6.27	32.64	11.33	38.74	34.98	165	94	Average	VERTICAL
4	15953.60	60.66	74.00	-13.34	45.57	11.33	38.74	34.98	165	94	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11a CH 100 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10994.68	54.50	74.00	-19.50	40.97	9.69	38.50	34.66	180	176	Peak	HORIZONTAL
2	11002.96	42.04	54.00	-11.96	28.52	9.68	38.50	34.66	180	176	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10999.00	57.05	74.00	-16.95	43.53	9.68	38.50	34.66	185	307	Peak	VERTICAL
2	11000.40	43.97	54.00	-10.03	30.45	9.68	38.50	34.66	185	307	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11a CH 116 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11161.20	56.22	74.00	-17.78	42.71	9.66	38.50	34.65	158	208	Peak	HORIZONTAL
2	11169.24	41.34	54.00	-12.66	27.83	9.66	38.50	34.65	158	208	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11159.88	58.00	74.00	-16.00	44.49	9.66	38.50	34.65	179	291	Peak	VERTICAL
2	11160.28	44.66	54.00	-9.34	31.15	9.66	38.50	34.65	179	291	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11a CH 140 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11395.92	56.01	74.00	-17.99	42.51	9.63	38.50	34.63	154	286	Peak	HORIZONTAL
2	11399.34	42.18	54.00	-11.82	28.68	9.63	38.50	34.63	154	286	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11396.38	55.82	74.00	-18.18	42.32	9.63	38.50	34.63	172	258	Peak	VERTICAL
2	11399.04	42.58	54.00	-11.42	29.08	9.63	38.50	34.63	172	258	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11a CH 149 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11486.04	43.17	54.00	-10.83	29.67	9.62	38.50	34.62	180	138	Average	HORIZONTAL
2	11491.82	57.49	74.00	-16.51	43.99	9.62	38.50	34.62	180	138	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11485.60	46.84	54.00	-7.16	33.34	9.62	38.50	34.62	210	169	Average	VERTICAL
2	11486.48	59.43	74.00	-14.57	45.93	9.62	38.50	34.62	210	169	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11a CH 157 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11574.04	46.41	54.00	-7.59	32.92	9.61	38.53	34.65	115	319	Average	HORIZONTAL
2	11576.32	59.62	74.00	-14.38	46.13	9.61	38.53	34.65	115	319	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11565.80	61.28	74.00	-12.72	47.79	9.61	38.53	34.65	208	168	Peak	VERTICAL
2	11566.70	48.27	54.00	-5.73	34.78	9.61	38.53	34.65	208	168	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11a CH 165 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11656.12	44.96	54.00	-9.04	31.47	9.60	38.57	34.68	125	322	Average	HORIZONTAL
2	11656.88	58.01	74.00	-15.99	44.52	9.60	38.57	34.68	125	322	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11649.44	61.20	74.00	-12.80	47.73	9.60	38.55	34.68	113	79	Peak	VERTICAL
2	11650.20	48.33	54.00	-5.67	34.86	9.60	38.55	34.68	113	79	Average	VERTICAL

<For Beamforming / 2TX Mode>

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15533.56	46.39	54.00	-7.61	29.70	13.38	38.45	35.14	144	117	Average	HORIZONTAL
2	15543.60	59.45	74.00	-14.55	42.76	13.38	38.45	35.14	144	117	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15530.72	46.42	54.00	-7.58	29.73	13.38	38.45	35.14	156	209	Average	VERTICAL
2	15534.72	60.10	74.00	-13.90	43.41	13.38	38.45	35.14	156	209	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 40 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15602.88	59.14	74.00	-14.86	42.61	13.38	38.34	35.19	153	258	Peak	HORIZONTAL
2	15609.44	46.62	54.00	-7.38	30.09	13.38	38.34	35.19	153	258	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15603.92	59.20	74.00	-14.80	42.67	13.38	38.34	35.19	182	166	Peak	VERTICAL
2	15607.16	46.70	54.00	-7.30	30.17	13.38	38.34	35.19	182	166	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 48 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15723.28	47.40	54.00	-6.60	31.02	13.39	38.23	35.24	148	316	Average	HORIZONTAL
2	15728.16	60.65	74.00	-13.35	44.27	13.39	38.23	35.24	148	316	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15710.92	47.34	54.00	-6.66	30.96	13.39	38.23	35.24	149	107	Average	VERTICAL
2	15719.32	60.53	74.00	-13.47	44.15	13.39	38.23	35.24	149	107	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 52 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15771.20	60.80	74.00	-13.20	44.50	13.39	38.17	35.26	154	198	Peak	HORIZONTAL
2	15788.04	48.17	54.00	-5.83	31.95	13.39	38.12	35.29	154	198	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15770.92	60.97	74.00	-13.03	44.67	13.39	38.17	35.26	159	113	Peak	VERTICAL
2	15775.40	48.16	54.00	-5.84	31.86	13.39	38.17	35.26	159	113	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 60 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10601.56	54.75	74.00	-19.25	40.08	10.59	38.94	34.86	179	196	Peak	HORIZONTAL
2	10607.76	42.24	54.00	-11.76	27.57	10.59	38.94	34.86	179	196	Average	HORIZONTAL
3	15900.20	47.61	54.00	-6.39	31.55	13.39	38.01	35.34	161	97	Average	HORIZONTAL
4	15902.44	60.65	74.00	-13.35	44.59	13.39	38.01	35.34	161	97	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10599.72	59.16	74.00	-14.84	44.49	10.59	38.94	34.86	168	73	Peak	VERTICAL
2	10599.76	46.07	54.00	-7.93	31.40	10.59	38.94	34.86	168	73	Average	VERTICAL
3	15896.40	47.86	54.00	-6.14	31.80	13.39	38.01	35.34	153	179	Average	VERTICAL
4	15909.96	60.28	74.00	-13.72	44.22	13.39	38.01	35.34	153	179	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 64 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10636.24	42.18	54.00	-11.82	27.47	10.60	38.95	34.84	153	103	Average	HORIZONTAL
2	10639.24	54.47	74.00	-19.53	39.76	10.60	38.95	34.84	153	103	Peak	HORIZONTAL
3	15953.60	47.42	54.00	-6.58	31.44	13.39	37.95	35.36	136	202	Average	HORIZONTAL
4	15961.16	60.32	74.00	-13.68	44.34	13.39	37.95	35.36	136	202	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10638.40	44.49	54.00	-9.51	29.78	10.60	38.95	34.84	175	324	Average	VERTICAL
2	10640.88	56.55	74.00	-17.45	41.84	10.60	38.95	34.84	175	324	Peak	VERTICAL
3	15952.20	59.99	74.00	-14.01	44.01	13.39	37.95	35.36	145	115	Peak	VERTICAL
4	15960.40	47.33	54.00	-6.67	31.35	13.39	37.95	35.36	145	115	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 100 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10995.76	55.26	74.00	-18.74	40.19	10.66	39.09	34.68	144	217	Peak	HORIZONTAL
2	11009.32	44.00	54.00	-10.00	28.91	10.66	39.10	34.67	144	217	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11001.08	45.42	54.00	-8.58	30.33	10.66	39.10	34.67	154	92	Average	VERTICAL
2	11001.88	55.65	74.00	-18.35	40.56	10.66	39.10	34.67	154	92	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 116 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11155.88	55.63	74.00	-18.37	40.37	10.69	39.26	34.69	156	74	Peak	HORIZONTAL
2	11160.28	43.18	54.00	-10.82	27.89	10.69	39.30	34.70	156	74	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11160.00	57.15	74.00	-16.85	41.86	10.69	39.30	34.70	186	227	Peak	VERTICAL
2	11160.52	46.53	54.00	-7.47	31.24	10.69	39.30	34.70	186	227	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 140 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11393.76	56.16	74.00	-17.84	40.58	10.73	39.58	34.73	168	228	Peak	HORIZONTAL
2	11394.60	43.67	54.00	-10.33	28.09	10.73	39.58	34.73	168	228	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11396.72	56.95	74.00	-17.05	41.37	10.73	39.58	34.73	174	123	Peak	VERTICAL
2	11398.24	44.90	54.00	-9.10	29.32	10.73	39.58	34.73	174	123	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11486.28	44.01	54.00	-9.99	28.31	10.75	39.70	34.75	151	243	Average	HORIZONTAL
2	11496.84	56.30	74.00	-17.70	40.60	10.75	39.70	34.75	151	243	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11480.56	57.98	74.00	-16.02	42.32	10.74	39.66	34.74	158	113	Peak	VERTICAL
2	11488.60	47.61	54.00	-6.39	31.91	10.75	39.70	34.75	158	113	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11574.36	59.62	74.00	-14.38	43.97	10.76	39.65	34.76	157	136	Peak	HORIZONTAL
2	11574.60	47.07	54.00	-6.93	31.42	10.76	39.65	34.76	157	136	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11579.72	56.10	74.00	-17.90	40.45	10.76	39.65	34.76	141	223	Peak	VERTICAL
2	11579.96	46.19	54.00	-7.81	30.54	10.76	39.65	34.76	141	223	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11643.32	56.73	74.00	-17.27	41.14	10.77	39.59	34.77	133	244	Peak	HORIZONTAL
2	11654.48	43.99	54.00	-10.01	28.43	10.77	39.57	34.78	133	244	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11641.68	57.09	74.00	-16.91	41.50	10.77	39.59	34.77	161	130	Peak	VERTICAL
2	11648.96	46.23	54.00	-7.77	30.64	10.77	39.59	34.77	161	130	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15577.00	59.53	74.00	-14.47	42.92	13.38	38.39	35.16	130	146	Peak	HORIZONTAL
2	15579.88	46.25	54.00	-7.75	29.64	13.38	38.39	35.16	130	146	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15575.88	59.08	74.00	-14.92	42.47	13.38	38.39	35.16	192	261	Peak	VERTICAL
2	15578.88	46.24	54.00	-7.76	29.63	13.38	38.39	35.16	192	261	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15681.12	59.98	74.00	-14.02	43.52	13.39	38.28	35.21	145	127	Peak	HORIZONTAL
2	15700.00	47.37	54.00	-6.63	30.99	13.39	38.23	35.24	145	127	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15691.32	60.42	74.00	-13.58	44.04	13.39	38.23	35.24	188	205	Peak	VERTICAL
2	15698.40	47.35	54.00	-6.65	30.97	13.39	38.23	35.24	188	205	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 54 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15802.32	48.27	54.00	-5.73	32.05	13.39	38.12	35.29	140	246	Average	HORIZONTAL
2	15811.96	60.96	74.00	-13.04	44.74	13.39	38.12	35.29	140	246	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15800.92	47.92	54.00	-6.08	31.70	13.39	38.12	35.29	190	134	Average	VERTICAL
2	15815.72	60.62	74.00	-13.38	44.40	13.39	38.12	35.29	190	134	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 62 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10620.36	42.17	54.00	-11.83	27.50	10.59	38.94	34.86	120	97	Average	HORIZONTAL
2	10622.24	54.84	74.00	-19.16	40.13	10.60	38.95	34.84	120	97	Peak	HORIZONTAL
3	15932.28	47.28	54.00	-6.72	31.30	13.39	37.95	35.36	156	215	Average	HORIZONTAL
4	15939.36	60.61	74.00	-13.39	44.63	13.39	37.95	35.36	156	215	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10620.04	44.11	54.00	-9.89	29.44	10.59	38.94	34.86	158	204	Average	VERTICAL
2	10626.00	55.23	74.00	-18.77	40.52	10.60	38.95	34.84	158	204	Peak	VERTICAL
3	15921.44	47.42	54.00	-6.58	31.44	13.39	37.95	35.36	148	122	Average	VERTICAL
4	15925.64	59.79	74.00	-14.21	43.81	13.39	37.95	35.36	148	122	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 102 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11014.84	42.85	54.00	-11.15	27.76	10.66	39.10	34.67	146	314	Average	HORIZONTAL
2	11017.20	55.66	74.00	-18.34	40.57	10.66	39.10	34.67	146	314	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11025.24	55.97	74.00	-18.03	40.88	10.66	39.10	34.67	170	215	Peak	VERTICAL
2	11028.40	43.09	54.00	-10.91	27.96	10.67	39.14	34.68	170	215	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 110 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11097.72	56.81	74.00	-17.19	41.60	10.68	39.22	34.69	171	150	Peak	HORIZONTAL
2	11101.12	43.56	54.00	-10.44	28.35	10.68	39.22	34.69	171	150	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11097.32	58.10	74.00	-15.90	42.89	10.68	39.22	34.69	166	72	Peak	VERTICAL
2	11099.96	46.72	54.00	-7.28	31.51	10.68	39.22	34.69	166	72	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 134 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11336.10	56.06	74.00	-17.94	40.56	10.72	39.50	34.72	149	342	Peak	HORIZONTAL
2	11343.61	43.25	54.00	-10.75	27.75	10.72	39.50	34.72	149	342	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11334.72	56.28	74.00	-17.72	40.78	10.72	39.50	34.72	167	200	Peak	VERTICAL
2	11338.30	43.75	54.00	-10.25	28.25	10.72	39.50	34.72	167	200	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11504.90	43.83	54.00	-10.17	28.13	10.75	39.70	34.75	138	191	Average	HORIZONTAL
2	11507.41	56.87	74.00	-17.13	41.17	10.75	39.70	34.75	138	191	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11510.18	59.44	74.00	-14.56	43.74	10.75	39.70	34.75	130	78	Peak	VERTICAL
2	11511.43	45.41	54.00	-8.59	29.71	10.75	39.70	34.75	130	78	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 /Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11586.30	57.16	74.00	-16.84	41.55	10.76	39.62	34.77	153	64	Peak	HORIZONTAL
2	11590.04	44.40	54.00	-9.60	28.79	10.76	39.62	34.77	153	64	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11590.27	46.99	54.00	-7.01	31.38	10.76	39.62	34.77	163	277	Average	VERTICAL
2	11594.08	57.16	74.00	-16.84	41.55	10.76	39.62	34.77	163	277	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15625.92	46.72	54.00	-7.28	30.19	13.38	38.34	35.19	158	153	Average	HORIZONTAL
2	15635.38	60.51	74.00	-13.49	43.98	13.38	38.34	35.19	158	153	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15624.83	59.76	74.00	-14.24	43.23	13.38	38.34	35.19	141	256	Peak	VERTICAL
2	15631.43	46.50	54.00	-7.50	29.97	13.38	38.34	35.19	141	256	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 58 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15867.55	59.81	74.00	-14.19	43.67	13.39	38.06	35.31	164	228	Peak	HORIZONTAL
2	15872.63	47.10	54.00	-6.90	30.96	13.39	38.06	35.31	164	228	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15864.58	60.12	74.00	-13.88	43.98	13.39	38.06	35.31	118	133	Peak	VERTICAL
2	15867.17	47.25	54.00	-6.75	31.11	13.39	38.06	35.31	118	133	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 106 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11060.61	56.18	74.00	-17.82	41.01	10.67	39.18	34.68	155	106	Peak	HORIZONTAL
2	11065.22	43.42	54.00	-10.58	28.25	10.67	39.18	34.68	155	106	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11054.53	56.30	74.00	-17.70	41.17	10.67	39.14	34.68	149	192	Peak	VERTICAL
2	11061.13	43.31	54.00	-10.69	28.14	10.67	39.18	34.68	149	192	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 122 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11218.12	55.93	74.00	-18.07	40.59	10.70	39.34	34.70	139	269	Peak	HORIZONTAL
2	11221.61	43.20	54.00	-10.80	27.83	10.70	39.38	34.71	139	269	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11215.94	57.31	74.00	-16.69	41.97	10.70	39.34	34.70	158	358	Peak	VERTICAL
2	11219.05	43.54	54.00	-10.46	28.20	10.70	39.34	34.70	158	358	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Chain 1 + Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11546.89	43.98	54.00	-10.02	28.32	10.75	39.67	34.76	147	152	Average	HORIZONTAL
2	11555.44	56.92	74.00	-17.08	41.27	10.76	39.65	34.76	147	152	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11547.35	57.15	74.00	-16.85	41.49	10.75	39.67	34.76	156	253	Peak	VERTICAL
2	11552.18	44.46	54.00	-9.54	28.81	10.76	39.65	34.76	156	253	Average	VERTICAL

PIFA Antenna

<For Non-Beamforming / 1TX Mode>

Temperature	22℃	**Humidity**	54%
Test Engineer	Gino Huang	**Configurations**	IEEE 802.11a CH 36 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10359.74	58.06	74.00	-15.94	43.52	10.55	39.02	35.03	100	72	Peak	HORIZONTAL
2	10359.95	45.35	54.00	-8.65	30.81	10.55	39.02	35.03	100	72	Average	HORIZONTAL
3	15539.52	45.43	54.00	-8.57	28.74	13.38	38.45	35.14	206	123	Average	HORIZONTAL
4	15540.96	58.32	74.00	-15.68	41.63	13.38	38.45	35.14	206	123	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10359.95	47.97	54.00	-6.03	33.43	10.55	39.02	35.03	100	78	Average	VERTICAL
2	10360.13	59.91	74.00	-14.09	45.37	10.55	39.02	35.03	100	78	Peak	VERTICAL
3	15539.41	58.95	74.00	-15.05	42.26	13.38	38.45	35.14	160	103	Peak	VERTICAL
4	15540.69	45.30	54.00	-8.70	28.61	13.38	38.45	35.14	160	103	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11a CH 40 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10400.26	60.26	68.20	-7.94	45.72	10.55	38.99	35.00	103	71	Peak	HORIZONTAL
2	15599.77	59.32	74.00	-14.68	42.71	13.38	38.39	35.16	246	320	Peak	HORIZONTAL
3	15600.06	45.87	54.00	-8.13	29.26	13.38	38.39	35.16	246	320	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10399.80	64.84	68.20	-3.36	50.30	10.55	38.99	35.00	110	70	Peak	VERTICAL
2	15599.24	45.92	74.00	-28.08	29.31	13.38	38.39	35.16	100	360	Average	VERTICAL
3	15600.02	59.36	74.00	-14.64	42.75	13.38	38.39	35.16	100	360	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	Gino Huang	Configurations	IEEE 802.11a CH 48 / Chain 2
Test Date	May 19, 2016 ~ Aug. 11, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15719.42	45.85	54.00	-8.15	30.97	11.27	38.42	34.81	138	221	Average	HORIZONTAL
2	15723.22	59.47	74.00	-14.53	44.59	11.27	38.42	34.81	138	221	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15717.80	45.73	54.00	-8.27	30.85	11.27	38.42	34.81	204	257	Average	VERTICAL
2	15721.10	59.34	74.00	-14.66	44.46	11.27	38.42	34.81	204	257	Peak	VERTICAL