FCC RF Test Report

APPLICANT	:	Wonderosa L.L.C.
EQUIPMENT	:	Digital Media Receiver
MODEL NAME	:	MW46WB
FCC ID	:	2AETL-0725
STANDARD	:	FCC Part 15 Subpart E §15.407
CLASSIFICATION	:	(NII) Unlicensed National Information Infrastructure

The testing was completed on Jun. 07, 2016. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager

Testing Laboratory 1190

SPORTON INTERNATIONAL INC.

No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.

TABLE OF CONTENTS

REVISION HISTORY **3**

SUMMARY OF TEST RESULT **4**

1 GENERAL DESCRIPTION **5**

1.1 Applicant 5
1.2 Product Feature of Equipment Under Test 5
1.3 Product Specification of Equipment Under Test 6
1.4 Modification of EUT 7
1.5 Testing Location 7
1.6 Applicable Standards 8

2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST **9**

2.1 Carrier Frequency and Channel 9
2.2 Pre-Scanned RF Power 10
2.3 Test Mode 13
2.4 Connection Diagram of Test System 15
2.5 Support Unit used in test configuration and system 16
2.6 EUT Operation Test Setup 16
2.7 Measurement Results Explanation Example 16

3 TEST RESULT **17**

3.1 6dB and 26dB and 99% Occupied Bandwidth Measurement 17
3.2 Maximum Conducted Output Power Measurement 20
3.3 Power Spectral Density Measurement 21
3.4 Unwanted Emissions Measurement 24
3.5 AC Conducted Emission Measurement 29
3.6 Frequency Stability Measurement 33
3.7 Automatically Discontinue Transmission 34
3.8 Antenna Requirements 36

4 LIST OF MEASURING EQUIPMENT **37**

5 UNCERTAINTY OF EVALUATION **39**

APPENDIX A. CONDUCTED TEST RESULTS

APPENDIX B. RADIATED TEST RESULTS

APPENDIX C. RADIATED SPURIOUS EMISSION PLOTS

APPENDIX D. DUTY CYCLE

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR572808-01E	Rev. 01	Initial issue of report	Jun. 08, 2016

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result
3.1	15.403(i)	6dB, 26dB and 99% Occupied Bandwidth	> 500kHz	Pass
3.2	15.407(a)	Maximum Conducted Output Power	≤ 30 dBm	Pass
3.3	15.407(a)	Power Spectral Density	≤ 30 dBm/500kHz	Pass
3.4	15.407(b)	Unwanted Emissions	15.407(b)(4)(i) &15.209(a)	Pass
3.5	15.207	AC Conducted Emission	15.207(a)	Pass
3.6	15.407(g)	Frequency Stability	Within Operation Band	Pass
3.7	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Pass
3.8	15.203 & 15.407(a)	Antenna Requirement	N/A	Pass

1 General Description

1.1 Applicant

Wonderosa L.L.C.
8115 Maple Lawn Blvd, Suite 200
Fulton, Maryland, 20759

1.2 Product Feature of Equipment Under Test

Product Feature	
Equipment	Digital Media Receiver
Model Name	MW46WB
FCC ID	2AETL-0725
EUT supports Radios application	WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth v4.1 EDR/LE

1.3 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Channel Frequency Range	5745 MHz ~ 5825 MHz
Maximum Output Power	**<5745 MHz ~ 5825 MHz>** **SISO <Ant. Port 1>** 802.11a : 19.64 dBm / 0.0920 W 802.11n HT20 : 19.72 dBm / 0.0938 W 802.11n HT40 : 19.74 dBm / 0.0942 W 802.11ac VHT20: 19.70 dBm / 0.0933 W 802.11ac VHT40: 19.60 dBm / 0.0912 W 802.11ac VHT80: 19.29 dBm / 0.0849 W **SISO <Ant. Port 2>** 802.11a : 19.63 dBm / 0.0918 W 802.11n HT20 : 19.59 dBm / 0.0910 W 802.11n HT40 : 19.82 dBm / 0.0959 W 802.11ac VHT20: 19.56 dBm / 0.0904 W 802.11ac VHT40: 19.76 dBm / 0.0946 W 802.11ac VHT80: 19.46 dBm / 0.0883 W **MIMO <Ant. Port 1 + 2>** 802.11a : 22.81 dBm / 0.1910 W 802.11n HT20 : 22.79 dBm / 0.1901 W 802.11n HT40 : 22.90 dBm / 0.1950 W 802.11ac VHT20: 22.72 dBm / 0.1871 W 802.11ac VHT40: 22.89 dBm / 0.1945 W 802.11ac VHT80: 21.51 dBm / 0.1416 W
99% Occupied Bandwidth	802.11a : 18.85 MHz 802.11n HT20 : 19.70 MHz 802.11n HT40 : 38.30 MHz 802.11ac VHT20 : 19.55 MHz 802.11ac VHT40 : 38.00 MHz 802.11ac VHT80 : 76.20 MHz
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)
Antenna Type	Ant.1 : Fixed Internal Antenna Ant.2 : Fixed Internal Antenna
Antenna Gain	Ant.1 : 4.23 dBi Ant.2 : 4.81 dBi
Antenna Function Description	

	Chain Port 1	Chain Port 2
802.11 a/n/ac SISO	V	V
802.11 a/n/ac MIMO	V	V

1.4 Modification of EUT

No modifications are made to the EUT during all test items.

1.5 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1022 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	SPORTON INTERNATIONAL INC.		
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978		
Test Site No.	**Sporton Site No.**		
	TH02-HY	CO05-HY	03CH07-HY

Note: The test site complies with ANSI C63.4 2014 requirement.

Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd Rd. Guishan Dist, Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	**Sporton Site No.**
	03CH11-HY

Note: The test site complies with ANSI C63.4 2014 requirement.

1.6 Applicable Standards

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

- FCC Part 15 Subpart E
- FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ANSI C63.10-2013

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

2 Test Configuration of Equipment Under Test

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 kHz to 30 MHz) and radiated emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

The final configuration from all the combinations and the worst-case data rates were investigated by measuring the maximum power across all the data rates and modulation modes under section 2.2.

Based on the worst configuration found above, the RF power setting is set individually to meet FCC compliance limit for the final conducted and radiated tests shown in section 2.3.

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5725-5850 MHz Band 4 (U-NII-3)	149	5745	157	5785
	151*	5755	159*	5795
	153	5765	161	5805
	155#	5775	165	5825

Note:

1. The above Frequency and Channel in "*" were 802.11n HT40 and 802.11ac VHT40.
2. The above Frequency and Channel in "#" were 802.11ac VHT80.

2.2 Pre-Scanned RF Power

Preliminary tests were performed in different data rate and data rate associated with the highest power were chosen for full test in the following tables. Final Output Power equals to Measured Output Power adds the duty factor.

SISO <Ant. Port 1>

5GHz 802.11a mode								
Data Rate (MHz)	**6M bps**	**9M bps**	**12M bps**	**18M bps**	**24M bps**	**36M bps**	**48M bps**	**54M bps**
Average Power (dBm)	19.64	19.57	19.44	19.41	19.58	19.59	19.62	19.50

5GHz 802.11n HT20 mode								
Data Rate (MHz)	**MCS0**	**MCS1**	**MCS2**	**MCS3**	**MCS4**	**MCS5**	**MCS6**	**MCS7**
Average Power (dBm)	19.72	19.66	19.52	19.71	19.62	19.61	19.67	19.70

5GHz 802.11n HT40 mode								
Data Rate (MHz)	**MCS0**	**MCS1**	**MCS2**	**MCS3**	**MCS4**	**MCS5**	**MCS6**	**MCS7**
Average Power (dBm)	19.74	19.64	19.51	19.59	19.58	19.64	19.57	19.55

5GHz 802.11ac VHT20 mode									
Data Rate (MHz)	**MCS 0**	**MCS 1**	**MCS 2**	**MCS 3**	**MCS 4**	**MCS 5**	**MCS 6**	**MCS 7**	**MCS 8**
Average Power (dBm)	19.70	19.60	19.58	19.60	19.61	19.69	19.61	19.63	19.65

5GHz 802.11ac VHT40 mode										
Data Rate (MHz)	**MCS 0**	**MCS 1**	**MCS 2**	**MCS 3**	**MCS 4**	**MCS 5**	**MCS 6**	**MCS 7**	**MCS 8**	**MCS 9**
Average Power (dBm)	19.60	19.45	19.48	19.57	19.52	19.56	19.50	19.48	19.41	19.55

5GHz 802.11ac VHT80 mode										
Data Rate (MHz)	**MCS 0**	**MCS 1**	**MCS 2**	**MCS 3**	**MCS 4**	**MCS 5**	**MCS 6**	**MCS 7**	**MCS 8**	**MCS 9**
Average Power (dBm)	19.29	19.22	19.24	19.11	19.16	19.13	19.12	19.19	19.11	19.17

SISO <Ant. Port 2>

5GHz 802.11a mode								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Average Power (dBm)	19.63	19.40	19.41	19.43	19.40	19.33	19.52	19.39

5GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Average Power (dBm)	19.59	19.39	19.46	19.48	19.43	19.39	19.52	19.54

5GHz 802.11n HT40 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Average Power (dBm)	19.82	19.69	19.63	19.75	19.66	19.65	19.73	19.71

5GHz 802.11ac VHT20 mode									
Data Rate (MHz)	MCS 0	MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	MCS 8
Average Power (dBm)	19.56	19.35	19.27	19.52	19.46	19.42	19.36	19.52	19.38

5GHz 802.11ac VHT40 mode										
Data Rate (MHz)	MCS 0	MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	MCS 8	MCS 9
Average Power (dBm)	19.76	19.71	19.69	19.75	19.65	19.74	19.66	19.73	19.73	19.70

5GHz 802.11ac VHT80 mode										
Data Rate (MHz)	MCS 0	MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	MCS 8	MCS 9
Average Power (dBm)	19.46	19.05	19.18	19.44	19.31	19.34	19.33	19.40	19.41	19.42

MIMO <Ant. 1+2>

5GHz 802.11a mode								
Data Rate (MHz)	**6M bps**	**9M bps**	**12M bps**	**18M bps**	**24M bps**	**36M bps**	**48M bps**	**54M bps**
Average Power (dBm)	22.81	22.56	22.61	22.69	22.75	22.76	22.75	22.70

5GHz 802.11n HT20 mode								
Data Rate (MHz)	**MCS 0**	**MCS 1**	**MCS 2**	**MCS 3**	**MCS 4**	**MCS 5**	**MCS 6**	**MCS 7**
Average Power (dBm)	22.79	22.54	22.52	22.57	22.75	22.74	22.69	22.72

5GHz 802.11n HT40 mode								
Data Rate (MHz)	**MCS 0**	**MCS 1**	**MCS 2**	**MCS 3**	**MCS 4**	**MCS 5**	**MCS 6**	**MCS 7**
Average Power (dBm)	22.90	22.86	22.85	22.83	22.84	22.89	22.78	22.86

5GHz 802.11ac VHT20 mode									
Data Rate (MHz)	**MCS 0**	**MCS 1**	**MCS 2**	**MCS 3**	**MCS 4**	**MCS 5**	**MCS 6**	**MCS 7**	**MCS 8**
Average Power (dBm)	22.72	22.63	22.52	22.67	22.71	22.67	22.69	22.64	22.68

5GHz 802.11ac VHT40 mode										
Data Rate (MHz)	**MCS 0**	**MCS 1**	**MCS 2**	**MCS 3**	**MCS 4**	**MCS 5**	**MCS 6**	**MCS 7**	**MCS 8**	**MCS 9**
Average Power (dBm)	22.89	22.83	22.79	22.80	22.85	22.85	22.82	22.81	22.69	22.85

5GHz 802.11ac VHT80 mode										
Data Rate (MHz)	**MCS 0**	**MCS 1**	**MCS 2**	**MCS 3**	**MCS 4**	**MCS 5**	**MCS 6**	**MCS 7**	**MCS 8**	**MCS 9**
Average Power (dBm)	21.51	21.45	21.50	21.25	21.31	21.22	21.30	21.34	21.31	21.29

Note: MIMO Ant. 1+2 is a calculated result from sum of the power MIMO Ant. 1 and MIMO Ant. 2.

2.3 Test Mode

Final test mode of conducted test items and radiated spurious emissions are considering the modulation and worse data rates from the power table described in section 2.2.

Single Antenna

Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT20	MCS0
802.11ac VHT40	MCS0
802.11ac VHT80	MCS0

MIMO Antenna

Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT20	MCS0
802.11ac VHT40	MCS0
802.11ac VHT80	MCS0

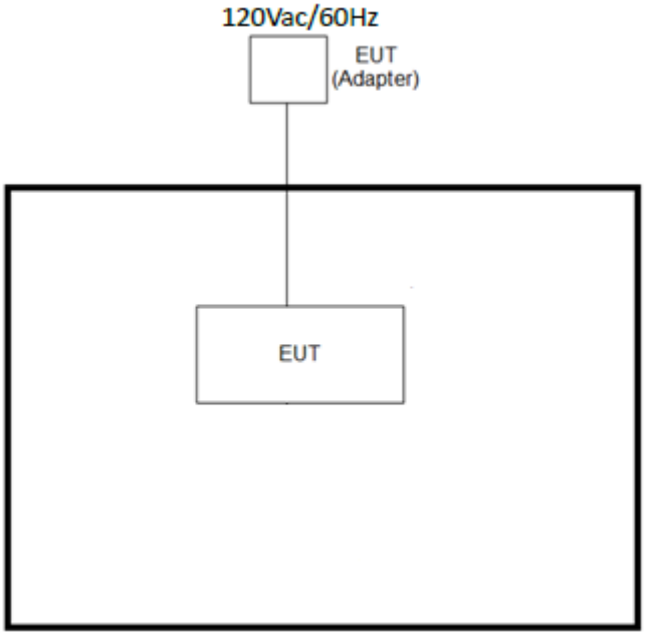
Test Cases	
AC Conducted Emission	Mode 1 : Bluetooth Link + WLAN (5GHz) Link + MPEG4 + Adapter

Ch. #		Band IV：5725-5850 MHz		
		802.11a	802.11n HT20	802.11n HT40
L	Low	149	149	151
M	Middle	157	157	-
H	High	165	165	159

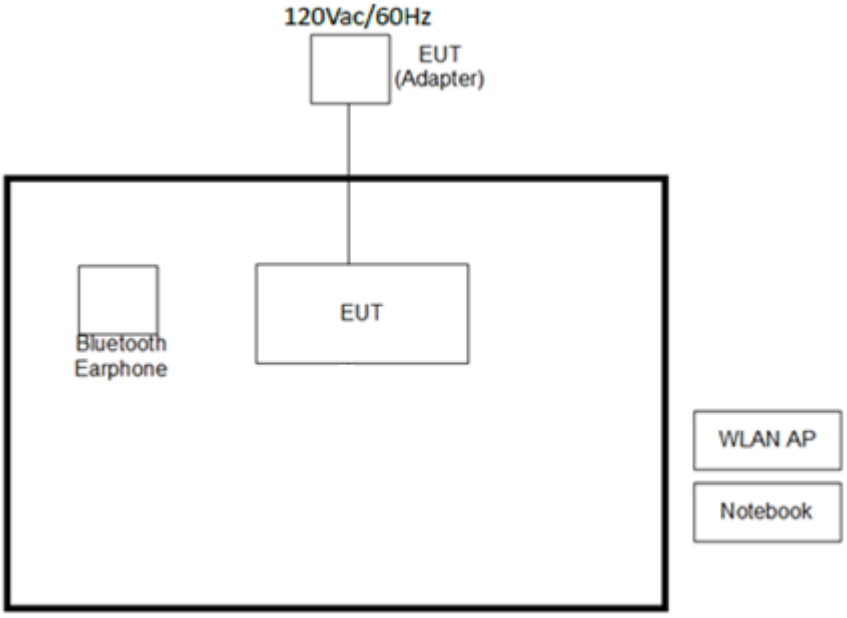
Ch. #		Band IV：5725-5850 MHz		
		802.11ac VHT20	802.11ac VHT40	802.11ac VHT80
L	Low	149	151	-
M	Middle	157	-	155
H	High	165	159	-

2.4 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.5 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
2.	Notebook	DELL	Latitude E6320	FCC DoC/ Contains FCC ID: QDS-BRCM1054	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
3.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A

2.6 EUT Operation Test Setup

For WLAN function, programmed RF utility, “Command” installed in the notebook make the EUT provide functions like channel selection and power level for continuous transmitting and receiving signals.

2.7 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example :

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.2 dB and 10dB attenuator.

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 4.2 + 10 = 14.2 (dB)

3 Test Result

3.1 6dB and 26dB and 99% Occupied Bandwidth Measurement

3.1.1 Description of 6dB and 26dB and 99% Occupied Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz.

26dB and 99% Occupied bandwidth are reporting only.

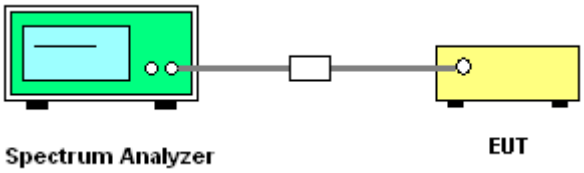
3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02. Section C) Emission bandwidth for the band 5.725-5.85GHz
2. Set RBW = 100kHz.
3. Set the VBW ≥ 3 x RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 6 dB down from the peak of the emission.
7. Measure and record the results in the test report.

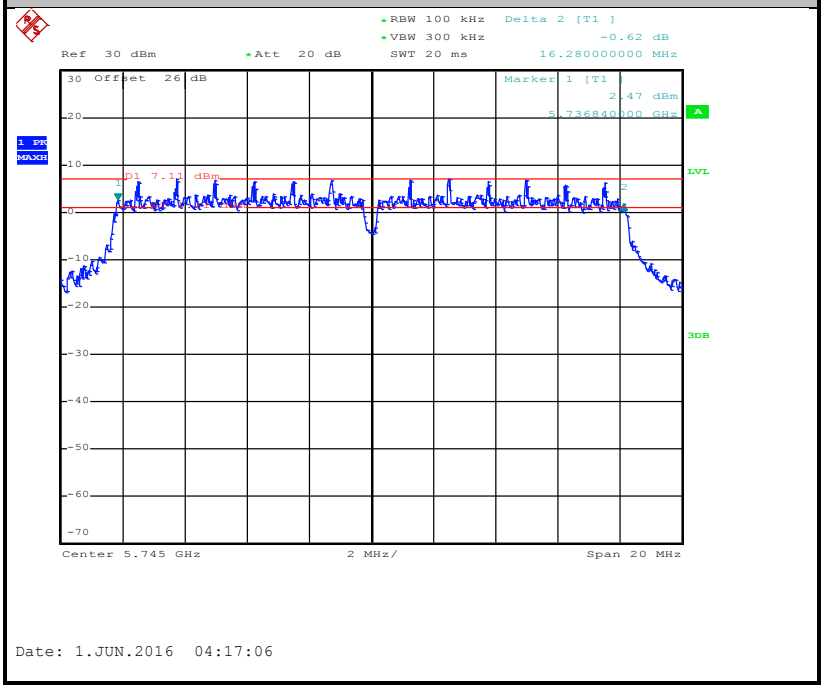
3.1.4 Test Setup



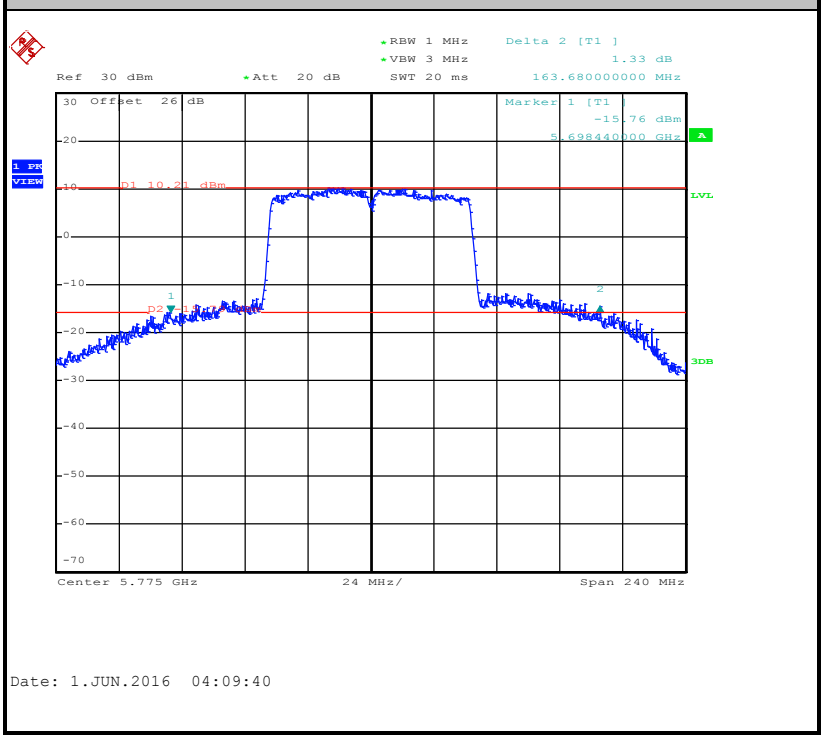
3.1.5 Test Result of 6dB Bandwidth

Please refer to Appendix A.

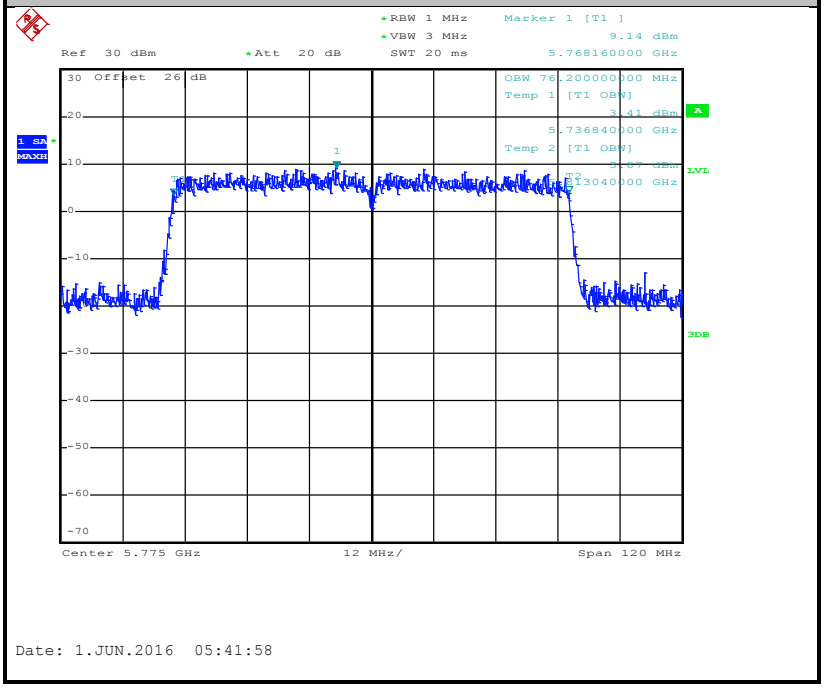
Minimum 6dB Bandwidth



Maximum 26dB Bandwidth



Maximum 99% Occupied Bandwidth



Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

For the band 5.725–5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

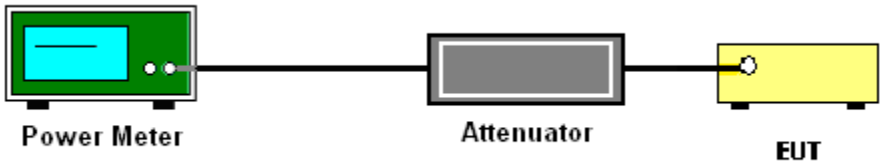
3.2.3 Test Procedures

The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02.

Method PM (Measurement using an RF average power meter):

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit continuously with a consistent duty cycle at its maximum power control level.
3. Measure the average power of the transmitter, and the average power is corrected with duty factor, 10 log(1/x), where x is the duty cycle.

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

For the band 5.725–5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.3.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.3.3 Test Procedures

The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02. Section F) Maximum power spectral density.

 # Method SA-2 #

(trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

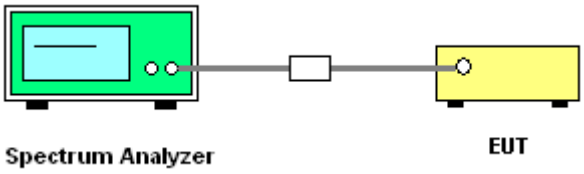
1. The testing follows Method SA-2 of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02.
   - Measure the duty cycle.
   - Set span to encompass the entire emission bandwidth (EBW) of the signal.
   - Set RBW = 300 kHz.
   - Set VBW ≥ 1 MHz.
   - Number of points in sweep ≥ 2 Span / RBW.
   - Sweep time = auto.
   - Detector = RMS
   - Trace average at least 100 traces in power averaging mode.
   - Add 10 log(500kHz/RBW) to the test result.
   - Add 10 log(1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add 10 log(1/0.25) = 6 dB if the duty cycle is 25 percent.

2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.
4. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

   Method (a): Measure and sum the spectra across the outputs.

   The total final Power Spectral Density is from a device with 2 transmitter outputs. The spectrum measurements of the individual outputs are all performed with the same span and number of points, the spectrum value in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 to obtain the value for the first frequency bin of the summed spectrum.

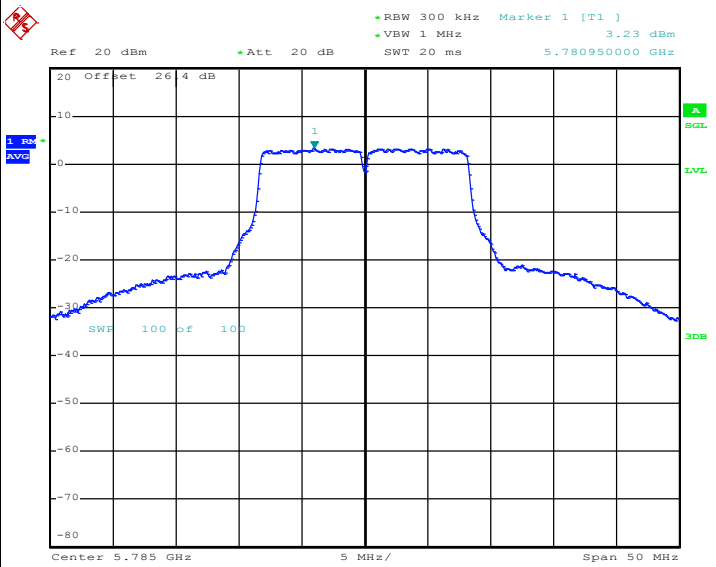
3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

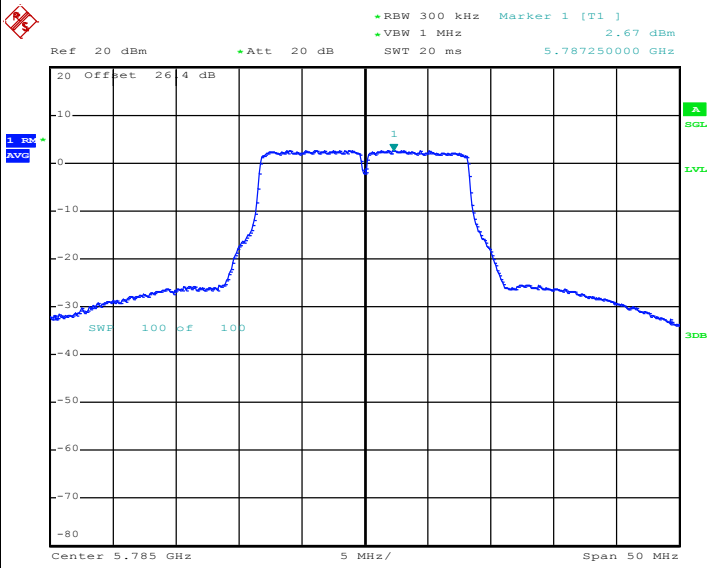
Please refer to Appendix A.

Worst Case Power Density (dBm/300kHz) for MIMO Ant. 1



Date: 4.MAY.2016 01:04:25

Worst Case Power Density (dBm/300kHz) for MIMO Ant. 2



Date: 4.MAY.2016 01:07:46

3.4 Unwanted Emissions Measurement

This section as specified in FCC Part 15.407(b) is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement. The unwanted emissions shall comply with 15.407(b)(1) to (6), and restricted bands per FCC Part15.205.

3.4.1 Limit of Unwanted Emissions

(1) For transmitters operating in the 5.725-5.85 GHz band:

15.407(b)(4)(i) 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.

(2) Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 as below table,

Frequency (MHz)	Field Strength (microvolts/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

Note: The following formula is used to convert the EIRP to field strength.

$$E=\frac{1000000\sqrt{30P}}{3}$$ μV/m, where P is the eirp (Watts)

EIRP (dBm)	Field Strength at 3m (dBμV/m)
-17	78.3
- 27	68.3

(3) KDB 789033 D02 General UNII Test Procedures New Rules v01r02 G)2)c) As specified in 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in 15.407(b)(4)). However, an out-of-band emission that complies with both the average and peak limits of 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz peak emission limit.

3.4.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.4.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02. Section G) Unwanted emissions measurement.

   (1) Procedure for Unwanted Emissions Measurements Below 1000MHz

   - RBW = 120 kHz
   - VBW = 300 kHz
   - Detector = Peak
   - Trace mode = max hold

   (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz

   - RBW = 1 MHz
   - VBW ≥ 3 MHz
   - Detector = Peak
   - Sweep time = auto
   - Trace mode = max hold

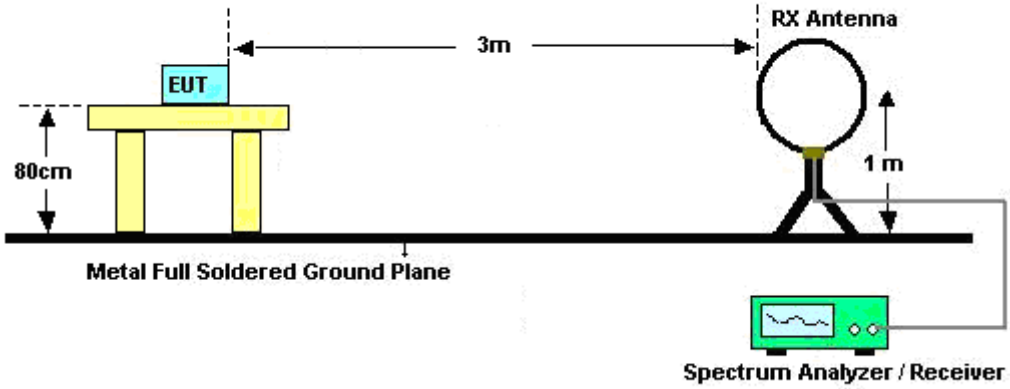
   (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

   - RBW = 1 MHz
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

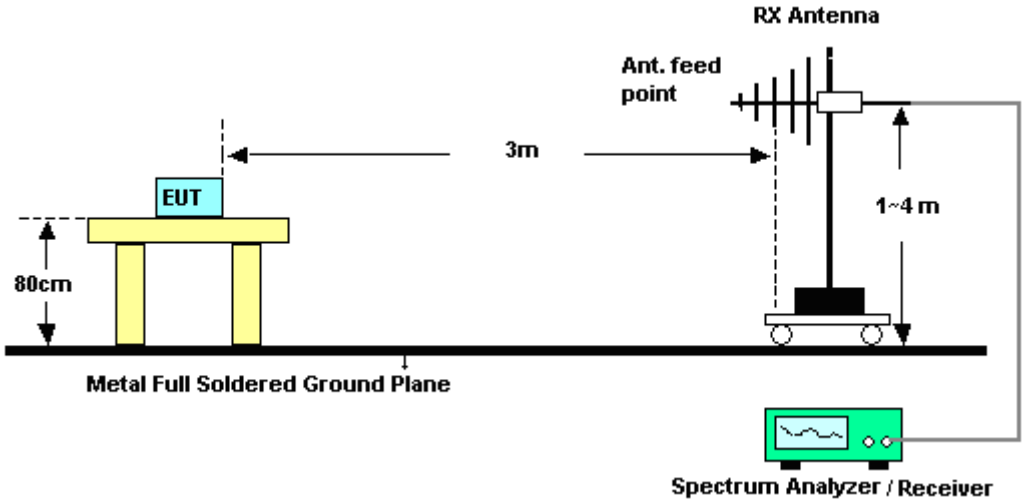
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

3.4.4 Test Setup

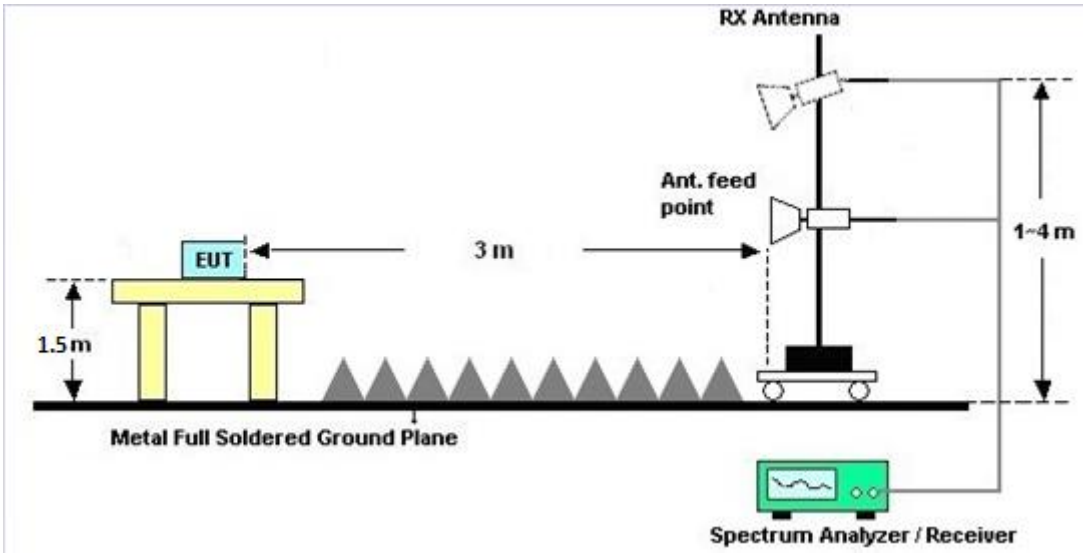
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.4.5 Test Results of Radiated Emissions (9 kHz ~ 30 MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

3.4.6 Test Result of Radiated Band Edges

Please refer to Appendix B and C.

3.4.7 Duty Cycle

Please refer to Appendix D.

3.4.8 Test Result of Unwanted Radiated Emission (30MHz ~ 10th Harmonic)

Please refer to Appendix B and C.

3.5 AC Conducted Emission Measurement

3.5.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (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 the limits in the following table.

Frequency of emission (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

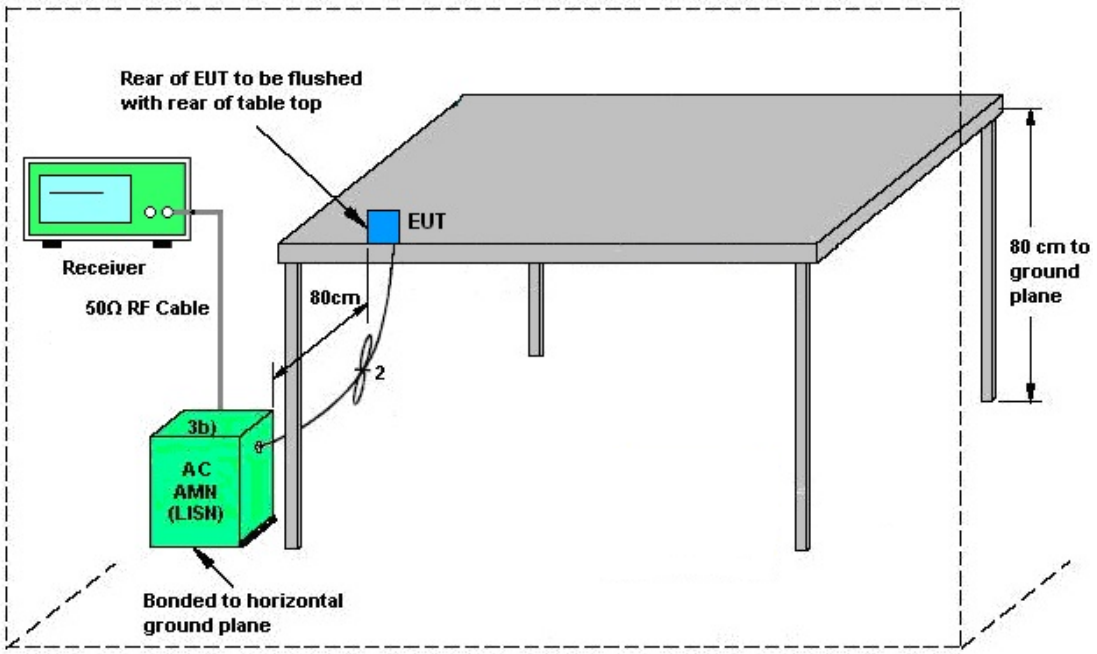
3.5.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.5.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

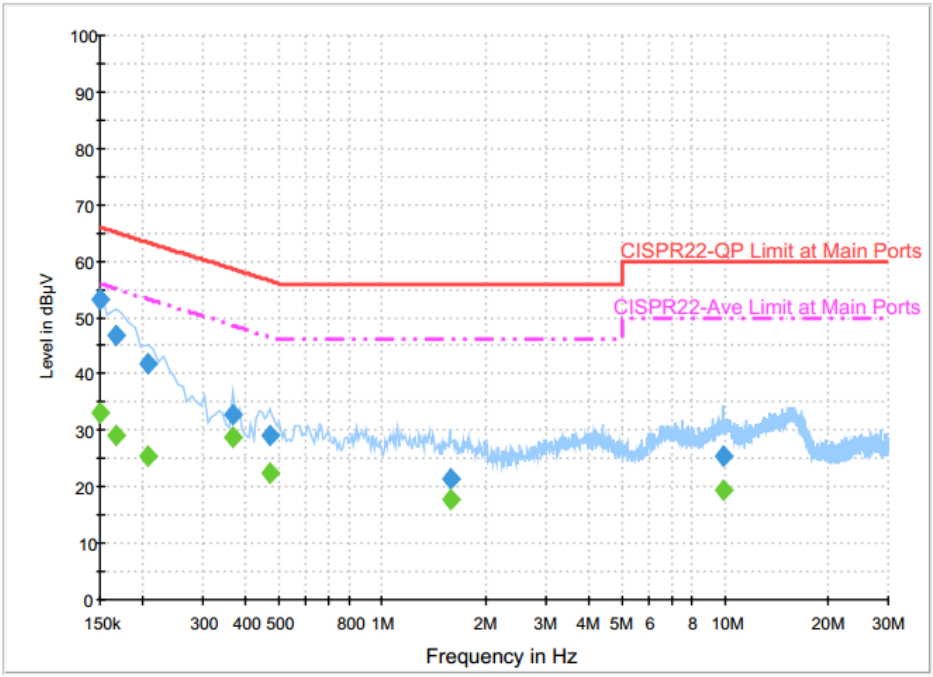
3.5.4 Test Setup



AMN = Artificial mains network (LISN)
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabilization network

3.5.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	**Temperature :**	21~22℃
Test Engineer :	Derreck Chen	**Relative Humidity :**	51~52%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	Bluetooth Link + WLAN (5GHz) Link + MPEG4 + Adapter		



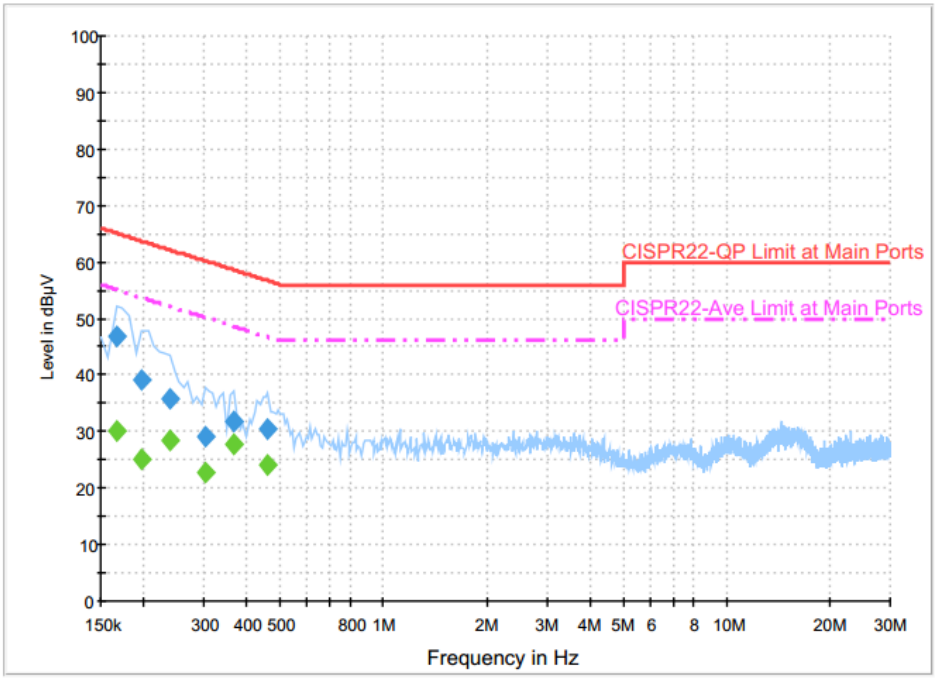
Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	53.2	Off	L1	19.6	12.8	66.0
0.166000	46.7	Off	L1	19.6	18.5	65.2
0.206000	41.8	Off	L1	19.6	21.6	63.4
0.366000	32.7	Off	L1	19.6	25.9	58.6
0.470000	29.0	Off	L1	19.6	27.5	56.5
1.582000	21.3	Off	L1	19.6	34.7	56.0
9.894000	25.3	Off	L1	19.7	34.7	60.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	33.1	Off	L1	19.6	22.9	56.0
0.166000	29.2	Off	L1	19.6	26.0	55.2
0.206000	25.4	Off	L1	19.6	28.0	53.4
0.366000	28.6	Off	L1	19.6	20.0	48.6
0.470000	22.4	Off	L1	19.6	24.1	46.5
1.582000	17.6	Off	L1	19.6	28.4	46.0
9.894000	19.4	Off	L1	19.7	30.6	50.0

Test Mode :	Mode 1	**Temperature :**	21~22℃
Test Engineer :	Derreck Chen	**Relative Humidity :**	51~52%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral
Function Type :	Bluetooth Link + WLAN (5GHz) Link + MPEG4 + Adapter		



Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.166000	46.9	Off	N	19.6	18.3	65.2
0.198000	39.3	Off	N	19.6	24.4	63.7
0.238000	35.9	Off	N	19.6	26.3	62.2
0.302000	29.2	Off	N	19.6	31.0	60.2
0.366000	31.8	Off	N	19.6	26.8	58.6
0.462000	30.4	Off	N	19.6	26.3	56.7

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.166000	30.2	Off	N	19.6	25.0	55.2
0.198000	25.1	Off	N	19.6	28.6	53.7
0.238000	28.5	Off	N	19.6	23.7	52.2
0.302000	22.9	Off	N	19.6	27.3	50.2
0.366000	27.9	Off	N	19.6	20.7	48.6
0.462000	24.2	Off	N	19.6	22.5	46.7

3.6 Frequency Stability Measurement

3.6.1 Limit of Frequency Stability

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

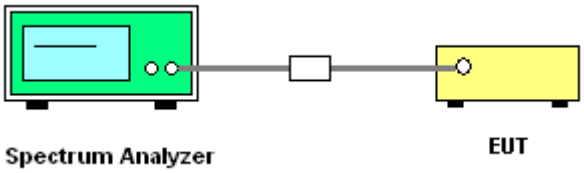
3.6.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.6.3 Test Procedures

1. To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
2. The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10dB lower than the measured peak value.
3. The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

3.6.4 Test Setup



3.6.5 Test Result of Frequency Stability

Please refer to Appendix A.

3.7 Automatically Discontinue Transmission

3.7.1 Limit of Automatically Discontinue Transmission

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

3.7.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.7.3 Test Result of Automatically Discontinue Transmission

EUT is verified this characteristic during the function check of normal sample associated with an access point:

A. Information start: make EUT supply information to the access point.

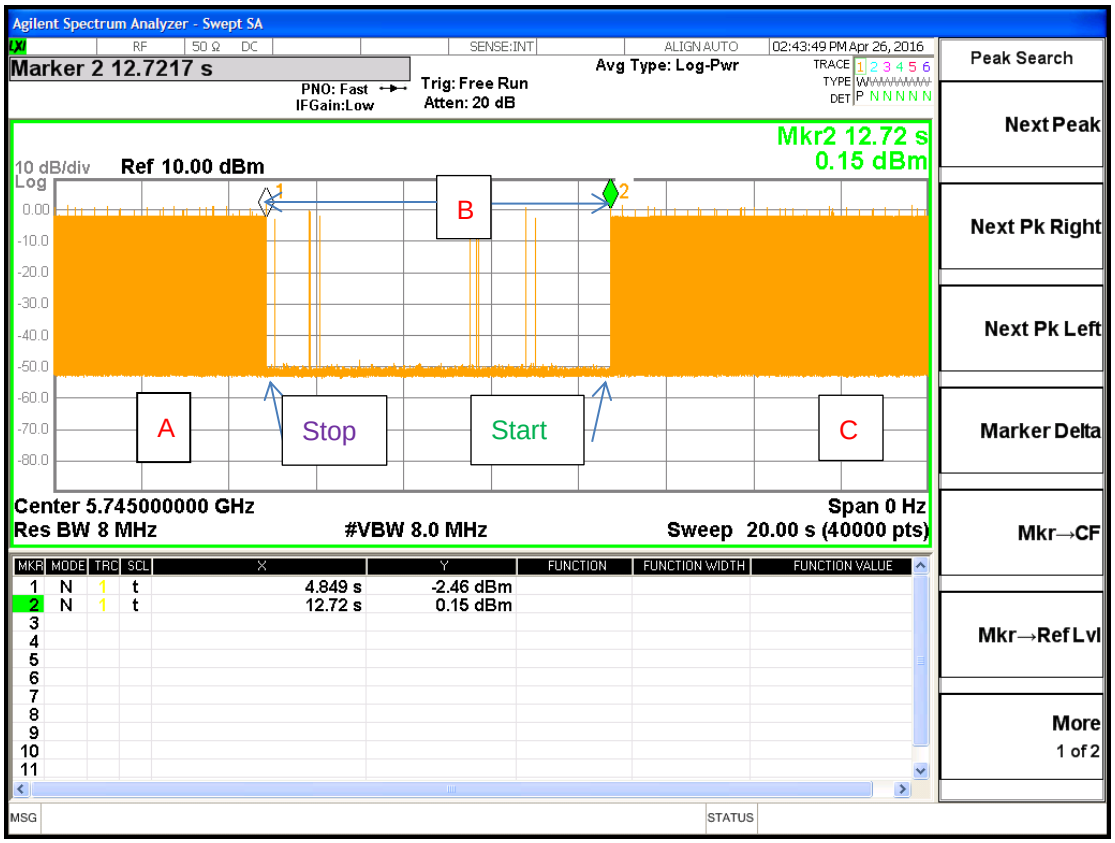
B. Information stop: stop supplying information to the access point.

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving.

C. Information start: make EUT supply information to the access point again.

The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission. While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.

5745MHz



Note : The control / signalling information during the period B is precluded.

3.8 Antenna Requirements

3.8.1 Standard Applicable

According to FCC 47 CFR Section 15.407(a)(1)(2) ,if transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.8.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.8.3 Antenna Gain

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

Directional gain = G_{ANT} + Array Gain, where Array Gain is as follows.

For power spectral density (PSD) measurements on all devices,

Array Gain = 10 log(N_{ANT}/N_{SS}=1) dB.

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$.

Directional gain may be calculated by using the formulas applicable to equal gain antennas with G_{ANT} set equal to the gain of the antenna having the highest gain;

The EUT supports CDD mode.

The power and PSD limit should be modified if the directional gain of EUT is over 6 dBi,

The directional gain “DG” is calculated as following table.

	Ant 1 (dBi)	Ant 2 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
Band IV	4.23	4.81	4.81	7.54	0.00	1.54

Power limit reduction = Composite gain – 6dBi, (min = 0)

PSD limit reduction = Composite gain + PSD Array gain – 6dBi, (min = 0)

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Power Meter	Anritsu	ML2495A	1036004	300MHz~40GHz	Jul. 29, 2015	Apr. 14, 2016 ~ Jun. 07, 2016	Jul. 28, 2016	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1027253	300MHz~40GHz	Jul. 29, 2015	Apr. 14, 2016 ~ Jun. 07, 2016	Jul. 28, 2016	Conducted (TH02-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz~40GHz	Jun. 18, 2015	Apr. 14, 2016 ~ Jun. 07, 2016	Jun. 17, 2016	Conducted (TH02-HY)
Bilog Antenna	TESEQ	CBL 6111D	35419	30MHz to 1GHz	Jan. 13, 2016	Apr. 19, 2016 ~ Apr. 21, 2016	Jan. 12, 2017	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Aug. 21, 2015	Apr. 19, 2016 ~ Apr. 21, 2016	Aug. 20, 2016	Radiation (03CH07-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Sep. 02, 2015	Apr. 19, 2016 ~ Apr. 21, 2016	Sep. 01, 2016	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-00101800-30-10P	1590074	1GHz ~ 18GHz	Jul. 01, 2015	Apr. 19, 2016~ Apr. 21, 2016	Jun. 30, 2016	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	10MHz-1000MHz	Mar. 18, 2016	Apr. 19, 2016 ~ Apr. 21, 2016	Mar. 18, 2017	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1GHz~ 26.5GHz	Oct. 19, 2015	Apr. 19, 2016 ~ Apr. 21, 2016	Oct. 18, 2016	Radiation (03CH07-HY)
Spectrum Analyzer	Agilent	N9010A	MY53470118	10Hz~44GHz	Feb. 27, 2016	Apr. 19, 2016 ~ Apr. 21, 2016	Feb. 26, 2017	Radiation (03CH07-HY)
Controller	ChainTek	Chaintek 3000	N/A	Control Turn table	N/A	Apr. 19, 2016 ~ Apr. 21, 2016	N/A	Radiation (03CH07-HY)
Controller	Max-Full	MF7802	MF780208368	Control Ant Mast	N/A	Apr. 19, 2016 ~ Apr. 21, 2016	N/A	Radiation (03CH07-HY)
Antenna Mast	Max-Full	MFA520BS	N/A	1m~4m	N/A	Apr. 19, 2016 ~ Apr. 21, 2016	N/A	Radiation (03CH07-HY)
Turn Table	ChainTek	Chaintek 3000	N/A	0~360 degree	N/A	Apr. 19, 2016 ~ Apr. 21, 2016	N/A	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	18GHz- 40GHz	Oct. 12, 2015	Apr. 19, 2016 ~ Apr. 21, 2016	Oct. 11, 2016	Radiation (03CH07-HY)
Preamplifier	MITEQ	JS44-18004000-33-8P	1840917	18GHz ~ 40GHz	Jun. 02, 2015	Apr. 19, 2016 ~ Apr. 21, 2016	Jun. 01, 2016	Radiation (03CH07-HY)
EMI Test Receiver	Agilent Technologies	N9038A(MXE)	MY53290045	20MHz~8.4GHz	Feb. 01, 2016	Apr. 19, 2016 ~ Apr. 21, 2016	Jan. 31, 2017	Radiation (03CH07-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Apr. 25, 2016	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 26, 2015	Apr. 25, 2016	Aug. 25, 2016	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 02, 2015	Apr. 25, 2016	Dec. 01, 2016	Conduction (CO05-HY)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Sep. 02, 2015	Jun. 01, 2016 ~ Jun. 04, 2016	Sep. 01, 2016	Radiation (03CH11-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Nov. 20, 2015	Jun. 01, 2016 ~ Jun. 04, 2016	Nov. 19, 2016	Radiation (03CH11-HY)
Bilog Antenna	TESEQ	CBL 6111D	35414	30MHz~1GHz	Nov. 17, 2015	Jun. 01, 2016 ~ Jun. 04, 2016	Nov. 16, 2016	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1326	1GHz ~ 18GHz	Oct. 08, 2015	Jun. 01, 2016 ~ Jun. 04, 2016	Oct. 07, 2016	Radiation (03CH11-HY)
Hygrometer	TECPEL	DTN-303B	TP140325	N/A	Nov. 17, 2015	Jun. 01, 2016 ~ Jun. 04, 2016	Nov. 16, 2016	Radiation (03CH11-HY)
Preamplifier	Keysight	83017A	MY53270080	1GHz~26.5GHz	Nov. 19, 2015	Jun. 01, 2016 ~ Jun. 04, 2016	Nov. 18, 2016	Radiation (03CH11-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1902247	1GHz~18GHz	Jul. 01, 2015	Jun. 01, 2016 ~ Jun. 04, 2016	Jun. 30, 2016	Radiation (03CH11-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz ~ 44GHZ	Sep. 24, 2015	Jun. 01, 2016 ~ Jun. 04, 2016	Sep. 23, 2016	Radiation (03CH11-HY)
Controller	EMEC	EM 1000	N/A	Control Turn table & Ant Mast	N/A	Jun. 01, 2016 ~ Jun. 04, 2016	N/A	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Jun. 01, 2016 ~ Jun. 04, 2016	N/A	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0~360 Degree	N/A	Jun. 01, 2016 ~ Jun. 04, 2016	N/A	Radiation (03CH11-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Nov. 02, 2015	Jun. 01, 2016 ~ Jun. 04, 2016	Nov. 01, 2016	Radiation (03CH11-HY)
Preamplifier	MITEQ	TTA0204	1872107	2GHz~40GHz	Feb. 15, 2016	Jun. 01, 2016 ~ Jun. 04, 2016	Feb. 14, 2017	Radiation (03CH11-HY)

5 Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.26

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz) for 03CH07-HY

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.60

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz) for 03CH11-HY

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.90

Appendix A. Conducted Test Results

Report Number : FR572808-01E

Test Engineer:	Derek Hsu	Temperature:	21~25	°C
Test Date:	2016/4/14~2016/06/07	Relative Humidity:	51~54	%

TEST RESULTS DATA
6dB and 26dB EBW and 99% OBW

Band IV													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)		26dB Bandwidth (MHz)		6 dB Bandwidth (MHz)		6 dB Bandwidth Min. Limit (MHz)		Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	149	5745	18.20	18.15	27.77	30.02	16.34	16.28	0.5	0.5	Pass
11a	6Mbps	1	157	5785	18.30	18.30	35.10	27.72	16.32	16.32	0.5	0.5	Pass
11a	6Mbps	1	165	5825	18.15	18.40	31.12	30.06	16.32	16.34	0.5	0.5	Pass
HT20	MCS0	1	149	5745	19.20	19.05	30.36	29.11	17.54	17.56	0.5	0.5	Pass
HT20	MCS0	1	157	5785	19.40	19.10	37.38	27.60	17.56	17.56	0.5	0.5	Pass
HT20	MCS0	1	165	5825	18.95	18.95	31.98	26.10	17.54	17.54	0.5	0.5	Pass
HT40	MCS0	1	151	5755	37.00	37.10	72.96	80.40	36.28	36.32	0.5	0.5	Pass
HT40	MCS0	1	159	5795	37.10	37.30	91.32	85.38	36.32	36.32	0.5	0.5	Pass
VHT20	MCS0	1	149	5745	19.05	18.85	37.68	31.38	17.54	17.54	0.5	0.5	Pass
VHT20	MCS0	1	157	5785	19.00	19.10	39.44	28.50	17.56	17.56	0.5	0.5	Pass
VHT20	MCS0	1	165	5825	19.10	18.95	32.90	25.09	17.54	17.54	0.5	0.5	Pass
VHT40	MCS0	1	151	5755	37.00	36.90	71.16	86.28	36.32	36.32	0.5	0.5	Pass
VHT40	MCS0	1	159	5795	37.20	37.20	83.58	90.48	36.32	36.32	0.5	0.5	Pass
VHT80	MCS0	1	155	5775	75.96	76.20	163.7	146.2	75.12	75.68	0.5	0.5	Pass
11a	6Mbps	2	149	5745	18.60	18.45	37.90	27.75	16.32	16.32	0.5		Pass
11a	6Mbps	2	157	5785	18.85	17.90	38.00	27.70	16.30	16.34	0.5		Pass
11a	6Mbps	2	165	5825	18.25	18.30	35.95	26.95	16.32	16.32	0.5		Pass
HT20	MCS0	2	149	5745	19.70	19.40	47.05	23.60	17.56	17.60	0.5		Pass
HT20	MCS0	2	157	5785	19.65	18.95	42.60	24.50	17.56	17.58	0.5		Pass
HT20	MCS0	2	165	5825	19.60	18.90	45.85	23.30	17.54	17.58	0.5		Pass
HT40	MCS0	2	151	5755	37.50	36.80	93.96	66.84	36.24	36.32	0.5		Pass
HT40	MCS0	2	159	5795	38.30	37.30	96.99	81.42	36.08	36.24	0.5		Pass
VHT20	MCS0	2	149	5745	19.60	18.95	45.20	30.85	17.56	17.58	0.5		Pass
VHT20	MCS0	2	157	5785	19.55	18.90	46.40	34.60	17.52	17.56	0.5		Pass
VHT20	MCS0	2	165	5825	19.30	19.00	45.55	26.65	17.56	17.56	0.5		Pass
VHT40	MCS0	2	151	5755	37.50	37.00	92.10	61.98	36.24	36.32	0.5		Pass
VHT40	MCS0	2	159	5795	38.00	37.20	97.23	88.38	36.00	36.32	0.5		Pass
VHT80	MCS0	2	155	5775	76.08	76.08	141.5	82.08	75.44	75.76	0.5		Pass

Report Number : FR572808-01E

TEST RESULTS DATA
Average Power Table

Band IV															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)			Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	149	5745	0.29	0.29	19.64	19.63		30.00	30.00	4.23	4.81		Pass
11a	6Mbps	1	157	5785	0.29	0.29	19.60	19.58		30.00	30.00	4.23	4.81		Pass
11a	6Mbps	1	165	5825	0.29	0.29	19.54	19.54		30.00	30.00	4.23	4.81		Pass
HT20	MCS0	1	149	5745	0.31	0.34	19.72	19.59		30.00	30.00	4.23	4.81		Pass
HT20	MCS0	1	157	5785	0.31	0.34	19.63	19.57		30.00	30.00	4.23	4.81		Pass
HT20	MCS0	1	165	5825	0.31	0.34	19.51	19.56		30.00	30.00	4.23	4.81		Pass
HT40	MCS0	1	151	5755	0.67	0.67	19.73	19.81		30.00	30.00	4.23	4.81		Pass
HT40	MCS0	1	159	5795	0.67	0.67	19.74	19.82		30.00	30.00	4.23	4.81		Pass
VHT20	MCS0	1	149	5745	0.31	0.34	19.70	19.56		30.00	30.00	4.23	4.81		Pass
VHT20	MCS0	1	157	5785	0.31	0.34	19.60	19.52		30.00	30.00	4.23	4.81		Pass
VHT20	MCS0	1	165	5825	0.31	0.34	19.50	19.51		30.00	30.00	4.23	4.81		Pass
VHT40	MCS0	1	151	5755	0.60	0.66	19.60	19.76		30.00	30.00	4.23	4.81		Pass
VHT40	MCS0	1	159	5795	0.60	0.66	19.58	19.75		30.00	30.00	4.23	4.81		Pass
VHT80	MCS0	1	155	5775	1.14	1.14	19.29	19.46		30.00	30.00	4.23	4.81		Pass
11a	6Mbps	2	149	5745	0.31	0.32	20.06	19.53	22.81	30.00		4.81			Pass
11a	6Mbps	2	157	5785	0.31	0.32	19.84	19.50	22.68	30.00		4.81			Pass
11a	6Mbps	2	165	5825	0.31	0.32	19.83	19.23	22.55	30.00		4.81			Pass
HT20	MCS0	2	149	5745	0.34	0.31	20.07	19.46	22.79	30.00		4.81			Pass
HT20	MCS0	2	157	5785	0.34	0.31	20.02	19.46	22.76	30.00		4.81			Pass
HT20	MCS0	2	165	5825	0.34	0.31	19.94	19.45	22.71	30.00		4.81			Pass
HT40	MCS0	2	151	5755	0.60	0.60	20.11	19.45	22.81	30.00		4.81			Pass
HT40	MCS0	2	159	5795	0.60	0.60	20.20	19.55	22.90	30.00		4.81			Pass
VHT20	MCS0	2	149	5745	0.34	0.34	19.99	19.40	22.72	30.00		4.81			Pass
VHT20	MCS0	2	157	5785	0.34	0.34	19.94	19.34	22.66	30.00		4.81			Pass
VHT20	MCS0	2	165	5825	0.34	0.34	19.89	19.32	22.62	30.00		4.81			Pass
VHT40	MCS0	2	151	5755	0.60	0.67	20.04	19.46	22.77	30.00		4.81			Pass
VHT40	MCS0	2	159	5795	0.60	0.67	20.18	19.55	22.89	30.00		4.81			Pass
VHT80	MCS0	2	155	5775	1.20	1.14	18.91	18.04	21.51	30.00		4.81			Pass

Report Number : FR572808-01E

TEST RESULTS DATA
Power Spectral Density

Band IV																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		10log (500kHz /RBW) Factor (dB)		Average Power Density (dBm/500kHz)			Average PSD Limit (dBm/500kHz)		DG (dBi)		Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	149	5745	0.29	0.29	2.22	2.22	4.33	4.04		30.00	30.00	4.23	4.81	Pass
11a	6Mbps	1	157	5785	0.29	0.29	2.22	2.22	4.33	4.00		30.00	30.00	4.23	4.81	Pass
11a	6Mbps	1	165	5825	0.29	0.29	2.22	2.22	4.42	4.21		30.00	30.00	4.23	4.81	Pass
HT20	MCS0	1	149	5745	0.31	0.34	2.22	2.22	4.02	3.69		30.00	30.00	4.23	4.81	Pass
HT20	MCS0	1	157	5785	0.31	0.34	2.22	2.22	3.80	3.65		30.00	30.00	4.23	4.81	Pass
HT20	MCS0	1	165	5825	0.31	0.34	2.22	2.22	3.85	3.89		30.00	30.00	4.23	4.81	Pass
HT40	MCS0	1	151	5755	0.67	0.67	2.22	2.22	1.28	1.69		30.00	30.00	4.23	4.81	Pass
HT40	MCS0	1	159	5795	0.67	0.67	2.22	2.22	1.11	1.31		30.00	30.00	4.23	4.81	Pass
VHT20	MCS0	1	149	5745	0.31	0.34	2.22	2.22	3.95	3.66		30.00	30.00	4.23	4.81	Pass
VHT20	MCS0	1	157	5785	0.31	0.34	2.22	2.22	3.67	3.62		30.00	30.00	4.23	4.81	Pass
VHT20	MCS0	1	165	5825	0.31	0.34	2.22	2.22	3.83	3.91		30.00	30.00	4.23	4.81	Pass
VHT40	MCS0	1	151	5755	0.60	0.66	2.22	2.22	1.26	1.46		30.00	30.00	4.23	4.81	Pass
VHT40	MCS0	1	159	5795	0.60	0.66	2.22	2.22	0.81	1.54		30.00	30.00	4.23	4.81	Pass
VHT80	MCS0	1	155	5775	1.14	1.14	2.22	2.22	-1.18	-1.01		30.00	30.00	4.23	4.81	Pass
11a	6Mbps	2	149	5745	0.31	0.32	2.22				8.34	28.46		7.54		Pass
11a	6Mbps	2	157	5785	0.31	0.32	2.22				8.77	28.46		7.54		Pass
11a	6Mbps	2	165	5825	0.31	0.32	2.22				8.14	28.46		7.54		Pass
HT20	MCS0	2	149	5745	0.34	0.31	2.22				8.04	28.46		7.54		Pass
HT20	MCS0	2	157	5785	0.34	0.31	2.22				8.31	28.46		7.54		Pass
HT20	MCS0	2	165	5825	0.34	0.31	2.22				8.28	28.46		7.54		Pass
HT40	MCS0	2	151	5755	0.60	0.60	2.22				5.02	28.46		7.54		Pass
HT40	MCS0	2	159	5795	0.60	0.60	2.22				5.84	28.46		7.54		Pass
VHT20	MCS0	2	149	5745	0.34	0.34	2.22				7.93	28.46		7.54		Pass
VHT20	MCS0	2	157	5785	0.34	0.34	2.22				8.42	28.46		7.54		Pass
VHT20	MCS0	2	165	5825	0.34	0.34	2.22				8.32	28.46		7.54		Pass
VHT40	MCS0	2	151	5755	0.60	0.67	2.22				5.07	28.46		7.54		Pass
VHT40	MCS0	2	159	5795	0.60	0.67	2.22				5.85	28.46		7.54		Pass
VHT80	MCS0	2	155	5775	1.20	1.14	2.22				1.34	28.46		7.54		Pass

Report Number : FR572808-01E

TEST RESULTS DATA
Frequency Stability

Band IV										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stablility (ppm)	Temperature (˚C)	Voltage (V)	Note
11a	6Mbps	1	149	5745	5745.000	0.000	0.00	20	102	
11a	6Mbps	1	149	5745	5745.000	0.000	0.00	20	138	
11a	6Mbps	1	149	5745	5745.000	0.000	0.00	20	120	
11a	6Mbps	1	149	5745	5745.050	0.050	8.70	0	120	
11a	6Mbps	1	149	5745	5745.000	0.000	0.00	35	120	

Appendix B. Radiated Spurious Emission

Test Engineer :	Luke Chang, Jesse Wang, and James Chiu	Temperature :	21~24°C
		Relative Humidity :	50~54%

Band 4 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 149 5745MHz		5646	54.44	-13.86	68.3	42.23	35.53	11.95	35.27	187	54	P	H
		5694	56.97	-43.91	100.88	44.71	35.54	12	35.28	187	54	P	H
		5719	67.87	-42.75	110.62	55.55	35.54	12.06	35.28	187	54	P	H
		5725	69.7	-52.6	122.3	57.38	35.54	12.06	35.28	187	54	P	H
	*	5745	112.62	-9.68	122.3	100.25	35.55	12.11	35.29	187	54	P	H
		5745	104.73	------	------	92.36	35.55	12.11	35.29	187	54	A	H
													H
													H
		5639	54.24	-14.06	68.3	42.03	35.53	11.95	35.27	100	118	P	V
		5689	58.45	-38.74	97.19	46.19	35.54	12	35.28	100	118	P	V
		5719	68.39	-42.23	110.62	56.07	35.54	12.06	35.28	100	118	P	V
		5725	73.97	-48.33	122.3	61.65	35.54	12.06	35.28	100	118	P	V
	*	5745	112.8	-9.5	122.3	100.43	35.55	12.11	35.29	100	118	P	V
		5745	105.38	------	------	93.01	35.55	12.11	35.29	100	118	A	V
													V
													V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 157 5785MHz		5630	54.42	-13.88	68.3	42.22	35.52	11.95	35.27	200	52	P	H
		5691	53.78	-44.88	98.66	41.52	35.54	12	35.28	200	52	P	H
		5719	57.59	-53.03	110.62	45.27	35.54	12.06	35.28	200	52	P	H
		5725	64.31	-57.99	122.3	51.99	35.54	12.06	35.28	200	52	P	H
	*	5785	114.59	-7.71	122.3	102.16	35.56	12.17	35.3	200	52	P	H
		5785	107.01	------	------	94.58	35.56	12.17	35.3	200	52	A	H
		5853	57.5	-57.96	115.46	44.96	35.57	12.28	35.31	200	52	P	H
		5867	54.74	-52.8	107.54	42.09	35.57	12.39	35.31	200	52	P	H
		5881	54.42	-46.42	100.84	41.77	35.58	12.39	35.32	200	52	P	H
		5944	52.51	-15.79	68.3	39.63	35.59	12.62	35.33	200	52	P	H
		5619	55.77	-12.53	68.3	43.62	35.52	11.89	35.26	100	122	P	V
		5664	55.68	-23.01	78.69	43.42	35.53	12	35.27	100	122	P	V
		5715	56.78	-52.72	109.5	44.46	35.54	12.06	35.28	100	122	P	V
		5725	58.8	-63.5	122.3	46.48	35.54	12.06	35.28	100	122	P	V
	*	5785	114.09	-8.21	122.3	101.66	35.56	12.17	35.3	100	122	P	V
		5785	106.56	------	------	94.13	35.56	12.17	35.3	100	122	A	V
		5851	56.37	-63.65	120.02	43.83	35.57	12.28	35.31	100	122	P	V
		5860	53.95	-55.55	109.5	41.41	35.57	12.28	35.31	100	122	P	V
		5885	52.48	-45.39	97.87	39.83	35.58	12.39	35.32	100	122	P	V
		5944	54.49	-13.81	68.3	41.61	35.59	12.62	35.33	100	122	P	V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
	*	5825	113.42	-8.88	122.3	100.88	35.57	12.28	35.31	191	53	P	H
		5825	105.98	------	------	93.44	35.57	12.28	35.31	191	53	A	H
		5850	75.37	-46.93	122.3	62.83	35.57	12.28	35.31	191	53	P	H
		5858	69.97	-40.09	110.06	57.43	35.57	12.28	35.31	191	53	P	H
		5877	58.86	-44.95	103.81	46.21	35.58	12.39	35.32	191	53	P	H
		5929	52.95	-15.35	68.3	40.18	35.59	12.51	35.33	191	53	P	H
													H
802.11a													H
CH 165	*	5825	113.65	-8.65	122.3	101.11	35.57	12.28	35.31	250	105	P	V
5825MHz		5825	106.24	------	------	93.7	35.57	12.28	35.31	250	105	A	V
		5853	73.9	-41.56	115.46	61.36	35.57	12.28	35.31	250	105	P	V
		5855	69.41	-41.49	110.9	56.87	35.57	12.28	35.31	250	105	P	V
		5880	57.44	-44.15	101.59	44.79	35.58	12.39	35.32	250	105	P	V
		5946	52.67	-15.63	68.3	39.79	35.59	12.62	35.33	250	105	P	V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

Band 4 5725~5850MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 149 5745MHz		11490	55.16	-18.84	74	53.12	38.38	17.16	53.5	100	316	P	H
		11490	45.06	-8.94	54	43.02	38.38	17.16	53.5	100	316	A	H
		17235	56.13	-12.17	68.3	48.95	42.06	20.76	55.64	100	0	P	H
													H
		11490	52.28	-21.72	74	50.24	38.38	17.16	53.5	100	74	P	V
		11490	44.26	-9.74	54	42.22	38.38	17.16	53.5	100	74	A	V
		17235	56.3	-12	68.3	49.12	42.06	20.76	55.64	100	0	P	V
													V
802.11a CH 157 5785MHz		11570	56.31	-17.69	74	54.18	38.47	17.16	53.5	100	54	P	H
		11570	47.77	-6.23	54	45.64	38.47	17.16	53.5	100	54	A	H
		17358	59.95	-8.35	68.3	52.83	41.99	20.84	55.71	100	0	P	H
													H
		11570	55.75	-18.25	74	53.62	38.47	17.16	53.5	100	71	P	V
		11570	46.17	-7.83	54	44.04	38.47	17.16	53.5	100	71	A	V
		17364	61.58	-6.72	68.3	54.48	41.98	20.84	55.72	100	0	P	V
													V
802.11a CH 165 5825MHz		11660	56.38	-17.62	74	54.16	38.56	17.16	53.5	100	46	P	H
		11660	47.44	-6.56	54	45.22	38.56	17.16	53.5	100	46	A	H
		17472	62.05	-6.25	68.3	54.98	41.92	20.93	55.78	100	0	P	H
													H
		11655	55.61	-18.39	74	53.39	38.56	17.16	53.5	358	29	P	V
		11655	46.19	-7.81	54	43.97	38.56	17.16	53.5	358	29	A	V
		17472	64.28	-4.02	68.3	57.21	41.92	20.93	55.78	100	0	P	V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5647	53	-15.3	68.3	40.79	35.53	11.95	35.27	188	53	P	H
		5699	56.69	-47.87	104.56	44.43	35.54	12	35.28	188	53	P	H
		5719	62.47	-48.15	110.62	50.15	35.54	12.06	35.28	188	53	P	H
		5725	68.84	-53.46	122.3	56.52	35.54	12.06	35.28	188	53	P	H
	*	5745	110.54	-11.76	122.3	98.17	35.55	12.11	35.29	188	53	P	H
		5745	102.66	------	------	90.29	35.55	12.11	35.29	188	53	A	H
802.11n													H
HT20													H
CH 149		5649	54.1	-14.2	68.3	41.89	35.53	11.95	35.27	100	118	P	V
5745MHz		5700	58.29	-47.01	105.3	46.03	35.54	12	35.28	100	118	P	V
		5718	69.13	-41.21	110.34	56.81	35.54	12.06	35.28	100	118	P	V
		5725	76.18	-46.12	122.3	63.86	35.54	12.06	35.28	100	118	P	V
	*	5745	111.22	-11.08	122.3	98.85	35.55	12.11	35.29	100	118	P	V
		5745	103.93	------	------	91.56	35.55	12.11	35.29	100	118	A	V
													V
													V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 157 5785MHz		5603	53.38	-14.92	68.3	41.23	35.52	11.89	35.26	193	53	P	H
		5668	52.86	-28.8	81.66	40.6	35.53	12	35.27	193	53	P	H
		5716	57.06	-52.72	109.78	44.74	35.54	12.06	35.28	193	53	P	H
		5725	59.77	-62.53	122.3	47.45	35.54	12.06	35.28	193	53	P	H
	*	5785	112.67	-9.63	122.3	100.24	35.56	12.17	35.3	193	53	A	H
		5785	105.02	------	------	92.59	35.56	12.17	35.3	193	53	P	H
		5850	57.2	-65.1	122.3	44.66	35.57	12.28	35.31	193	53	P	H
		5855	54.97	-55.93	110.9	42.43	35.57	12.28	35.31	193	53	P	H
		5908	53.43	-27.41	80.84	40.66	35.58	12.51	35.32	193	53	P	H
		5931	53.82	-14.48	68.3	41.05	35.59	12.51	35.33	193	53	P	H
		5626	55.29	-13.01	68.3	43.09	35.52	11.95	35.27	100	117	P	V
		5699	55.07	-49.49	104.56	42.81	35.54	12	35.28	100	117	P	V
		5718	59.8	-50.54	110.34	47.48	35.54	12.06	35.28	100	117	P	V
		5725	62.34	-59.96	122.3	50.02	35.54	12.06	35.28	100	117	P	V
	*	5785	111.92	-10.38	122.3	99.49	35.56	12.17	35.3	100	117	P	V
		5785	104.67	------	------	92.24	35.56	12.17	35.3	100	117	A	V
		5850	56	-66.3	122.3	43.46	35.57	12.28	35.31	100	117	P	V
		5866	54.84	-52.98	107.82	42.19	35.57	12.39	35.31	100	117	P	V
		5925	53.19	-15.11	68.3	40.42	35.59	12.51	35.33	100	117	P	V
		5942	53.25	-15.05	68.3	40.37	35.59	12.62	35.33	100	117	P	V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
	*	5825	112.38	-9.92	122.3	99.84	35.57	12.28	35.31	193	53	P	H
		5825	104.59	------	------	92.05	35.57	12.28	35.31	193	53	A	H
		5852	75.09	-42.65	117.74	62.55	35.57	12.28	35.31	193	53	P	H
		5856	73.65	-36.97	110.62	61.11	35.57	12.28	35.31	193	53	P	H
		5875	58.47	-46.83	105.3	45.82	35.58	12.39	35.32	193	53	P	H
		5942	53.11	-15.19	68.3	40.23	35.59	12.62	35.33	193	53	P	H
802.11n													H
HT20													H
CH 165	*	5825	112.53	-9.77	122.3	99.99	35.57	12.28	35.31	251	106	P	V
5825MHz		5825	104.59	------	------	92.05	35.57	12.28	35.31	251	106	A	V
		5850	72.96	-49.34	122.3	60.42	35.57	12.28	35.31	251	106	P	V
		5855	69.44	-41.46	110.9	56.9	35.57	12.28	35.31	251	106	P	V
		5877	58.69	-45.12	103.81	46.04	35.58	12.39	35.32	251	106	P	V
		5949	53.35	-14.95	68.3	40.47	35.59	12.62	35.33	251	106	P	V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

Band 4 5725~5850MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 149 5745MHz		11490	52.76	-21.24	74	50.72	38.38	17.16	53.5	100	52	P	H
		11490	42.97	-11.03	54	40.93	38.38	17.16	53.5	100	52	A	H
		17232	54.54	-13.76	68.3	47.36	42.06	20.76	55.64	100	0	P	H
													H
		11485	49.84	-24.16	74	47.8	38.38	17.16	53.5	100	0	P	V
		17232	57.52	-10.78	68.3	50.34	42.06	20.76	55.64	100	0	P	V
													V
													V
802.11n HT20 CH 157 5785MHz		11565	56.24	-17.76	74	54.13	38.45	17.16	53.5	100	342	P	H
		11565	47	-7	54	44.89	38.45	17.16	53.5	100	342	A	H
		17352	61.31	-6.99	68.3	54.19	41.99	20.84	55.71	100	0	P	H
													H
		11570	54.12	-19.88	74	51.99	38.47	17.16	53.5	100	74	P	V
		11570	45.52	-8.48	54	43.39	38.47	17.16	53.5	100	74	A	V
		17358	60.28	-8.02	68.3	53.16	41.99	20.84	55.71	100	0	P	V
													V
802.11n HT20 CH 165 5825MHz		11650	57.88	-16.12	74	55.68	38.54	17.16	53.5	158	48	P	H
		11650	48.31	-5.69	54	46.11	38.54	17.16	53.5	158	48	A	H
		17472	62.25	-6.05	68.3	55.18	41.92	20.93	55.78	100	0	P	H
													H
		11650	53.56	-20.44	74	51.36	38.54	17.16	53.5	100	89	P	V
		11650	45.14	-8.86	54	42.94	38.54	17.16	53.5	100	89	A	V
		17466	62.44	-5.86	68.3	55.37	41.92	20.93	55.78	100	0	P	V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 151 5755MHz		5647	51.76	-16.54	68.3	39.55	35.53	11.95	35.27	188	53	P	H
		5699	55.79	-48.77	104.56	43.53	35.54	12	35.28	188	53	P	H
		5720	66.59	-44.31	110.9	54.27	35.54	12.06	35.28	188	53	P	H
		5722	66.62	-48.84	115.46	54.3	35.54	12.06	35.28	188	53	P	H
	*	5755	104.76	-17.54	122.3	92.39	35.55	12.11	35.29	188	53	P	H
		5755	97.75	------	------	85.38	35.55	12.11	35.29	188	53	A	H
		5852	51.75	-65.99	117.74	39.21	35.57	12.28	35.31	188	53	P	H
		5869	52.98	-54	106.98	40.33	35.57	12.39	35.31	188	53	P	H
		5893	52.63	-39.31	91.94	39.98	35.58	12.39	35.32	188	53	P	H
		5936	51.36	-16.94	68.3	38.59	35.59	12.51	35.33	188	53	P	H
		5612	52.82	-15.48	68.3	40.67	35.52	11.89	35.26	100	118	P	V
		5700	58.64	-46.66	105.3	46.38	35.54	12	35.28	100	118	P	V
		5715	67.37	-42.13	109.5	55.05	35.54	12.06	35.28	100	118	P	V
		5724	68.28	-51.74	120.02	55.96	35.54	12.06	35.28	100	118	P	V
	*	5755	106.04	-16.26	122.3	93.67	35.55	12.11	35.29	100	118	P	V
		5755	98.25	------	------	85.88	35.55	12.11	35.29	100	118	A	V
		5854	51.96	-61.22	113.18	39.42	35.57	12.28	35.31	100	118	P	V
		5862	51.68	-57.26	108.94	39.03	35.57	12.39	35.31	100	118	P	V
		5878	53.55	-49.52	103.07	40.9	35.58	12.39	35.32	100	118	P	V
		5946	52.8	-15.5	68.3	39.92	35.59	12.62	35.33	100	118	P	V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 159 5795MHz		5623	53.68	-14.62	68.3	41.47	35.52	11.95	35.26	200	52	P	H
		5700	61.43	-43.87	105.3	49.17	35.54	12	35.28	200	52	P	H
		5720	67.25	-43.65	110.9	54.93	35.54	12.06	35.28	200	52	P	H
		5723	67.75	-49.99	117.74	55.43	35.54	12.06	35.28	200	52	A	H
	*	5795	110.52	-11.78	122.3	98.09	35.56	12.17	35.3	200	52	P	H
		5795	102.49	------	------	90.06	35.56	12.17	35.3	200	52	A	H
		5851	70.16	-49.86	120.02	57.62	35.57	12.28	35.31	200	52	P	H
		5857	68.94	-41.4	110.34	56.4	35.57	12.28	35.31	200	52	P	H
		5880	59.52	-42.07	101.59	46.87	35.58	12.39	35.32	200	52	P	H
		5931	53.74	-14.56	68.3	40.97	35.59	12.51	35.33	200	52	P	H
		5629	54.82	-13.48	68.3	42.62	35.52	11.95	35.27	100	116	P	V
		5700	59.23	-46.07	105.3	46.97	35.54	12	35.28	100	116	P	V
		5716	67.01	-42.77	109.78	54.69	35.54	12.06	35.28	100	116	P	V
		5721	69	-44.18	113.18	56.68	35.54	12.06	35.28	100	116	P	V
	*	5795	109.14	-13.16	122.3	96.71	35.56	12.17	35.3	100	116	P	V
		5795	101.83	------	------	89.4	35.56	12.17	35.3	100	116	A	V
		5850	67.2	-55.1	122.3	54.66	35.57	12.28	35.31	100	116	P	V
		5855	65.82	-45.08	110.9	53.28	35.57	12.28	35.31	100	116	P	V
		5875	60.39	-44.91	105.3	47.74	35.58	12.39	35.32	100	116	P	V
		5945	51.99	-16.31	68.3	39.11	35.59	12.62	35.33	100	116	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 151 5755MHz		11510	47.76	-26.24	74	45.7	38.4	17.16	53.5	100	0	P	H
		17268	49.92	-18.38	68.3	42.75	42.04	20.79	55.66	100	0	P	H
													H
													H
		11510	46.04	-27.96	74	43.98	38.4	17.16	53.5	100	0	P	V
		17268	48.13	-20.17	68.3	40.96	42.04	20.79	55.66	100	0	P	V
													V
													V
802.11n HT40 CH 159 5795MHz		11585	49.74	-24.26	74	47.59	38.49	17.16	53.5	100	0	P	H
		17394	57.05	-11.25	68.3	49.94	41.97	20.87	55.73	100	0	P	H
													H
													H
		11590	48.68	-25.32	74	46.53	38.49	17.16	53.5	100	0	P	V
		17406	56.21	-12.09	68.3	49.12	41.96	20.87	55.74	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 155 5775MHz		5632	56.77	-11.53	68.3	44.57	35.52	11.95	35.27	186	54	P	H
		5692	63.23	-36.17	99.4	50.97	35.54	12	35.28	186	54	P	H
		5718	63.83	-46.51	110.34	51.51	35.54	12.06	35.28	186	54	P	H
		5724	64.65	-55.37	120.02	52.33	35.54	12.06	35.28	186	54	A	H
	*	5775	102.43	-19.87	122.3	90.06	35.56	12.11	35.3	186	54	P	H
		5775	93.7	------	------	81.33	35.56	12.11	35.3	186	54	A	H
		5850	56.03	-66.27	122.3	43.49	35.57	12.28	35.31	186	54	P	H
		5867	56.82	-50.72	107.54	44.17	35.57	12.39	35.31	186	54	P	H
		5882	54.59	-45.51	100.1	41.94	35.58	12.39	35.32	186	54	P	H
		5937	52.73	-15.57	68.3	39.96	35.59	12.51	35.33	186	54	P	H
		5628	58.17	-10.13	68.3	45.97	35.52	11.95	35.27	100	118	P	V
		5695	64.28	-37.33	101.61	52.02	35.54	12	35.28	100	118	P	V
		5718	69.83	-40.51	110.34	57.51	35.54	12.06	35.28	100	118	P	V
		5720	66.2	-44.7	110.9	53.88	35.54	12.06	35.28	100	118	P	V
	*	5775	103.26	-19.04	122.3	90.89	35.56	12.11	35.3	100	118	P	V
		5775	93.72	------	------	81.35	35.56	12.11	35.3	100	118	A	V
		5854	56.77	-56.41	113.18	44.23	35.57	12.28	35.31	100	118	P	V
		5857	59.08	-51.26	110.34	46.54	35.57	12.28	35.31	100	118	P	V
		5893	54.55	-37.39	91.94	41.9	35.58	12.39	35.32	100	118	P	V
		5942	52.75	-15.55	68.3	39.87	35.59	12.62	35.33	100	118	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 155 5775MHz		11550	45.07	-28.93	74	42.96	38.45	17.16	53.5	100	0	P	H
		17328	47.42	-20.88	68.3	40.29	42.01	20.81	55.69	100	0	P	H
													H
													H
		11550	46.22	-27.78	74	44.11	38.45	17.16	53.5	100	0	P	V
		17328	46.35	-21.95	68.3	39.22	42.01	20.81	55.69	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

5GHz WIFI 802.11ac VHT80 (LF @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
5GHz 802.11ac VHT80 LF		30.81	27.29	-12.71	40	32.12	25.46	1.07	31.36			P	H
		235.2	38.13	-7.87	46	49.79	17.68	2.07	31.41			P	H
		247.08	42.24	-3.76	46	52.82	18.73	2.07	31.38	100	0	P	H
		328.7	30.59	-15.41	46	38.81	20.61	2.41	31.24			P	H
		428.1	38.55	-7.45	46	44	22.79	2.89	31.13			P	H
		961.5	33.67	-20.33	54	29.91	30.22	4.07	30.53			P	H
													H
													H
													H
													H
													H
													H
		30	29.06	-10.94	40	33.34	26	1.07	31.35			P	V
		222.24	32.36	-13.64	46	45.16	16.56	2.07	31.43			P	V
		244.11	38.4	-7.6	46	49.27	18.45	2.07	31.39			P	V
		388.2	32.77	-13.23	46	39.16	22.12	2.67	31.18			P	V
		431.6	42.13	-3.87	46	47.52	22.84	2.89	31.12	100	0	P	V
		961.5	33.86	-20.14	54	30.1	30.22	4.07	30.53			P	V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Note symbol

*	**Fundamental Frequency** which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is **over limit** line.
P/A	**P**eak or **A**verage
H/V	**H**orizontal or **V**ertical

A calculation example for radiated spurious emission is shown as below:

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Level(dBμV/m) =

Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

2. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

Both peak and average measured complies with the limit line, so test result is "PASS".

Test Engineer :	JC Liang, Jacky Hung , Bill Chang, and Ken Wu	Temperature :	20~24°C
		Relative Humidity :	50~52%

Band 4 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 149 5745MHz		5646.6	48.28	-20.02	68.3	38.94	32.19	10.69	33.54	215	311	P	H
		5699.4	58.6	-46.26	104.86	49.22	32.27	10.67	33.56	215	311	P	H
		5718.4	70.18	-40.27	110.45	60.79	32.31	10.65	33.57	215	311	P	H
		5725	72.12	-50.18	122.3	62.73	32.31	10.65	33.57	215	311	P	H
		5745	109.52	-12.78	122.3	100.12	32.34	10.63	33.57	215	311	P	H
		5745	101.9	------	------	92.5	32.34	10.63	33.57	215	311	A	H
													H
													H
		5634.6	52.59	-15.71	68.3	43.25	32.19	10.69	33.54	101	114	P	V
		5698.8	61.87	-42.55	104.42	52.49	32.27	10.67	33.56	101	114	P	V
		5718.4	75.2	-35.25	110.45	65.81	32.31	10.65	33.57	101	114	P	V
		5724.4	77.59	-43.34	120.93	68.2	32.31	10.65	33.57	101	114	P	V
		5745	112.58	-9.72	122.3	103.18	32.34	10.63	33.57	101	114	P	V
		5745	104.95	------	------	95.55	32.34	10.63	33.57	101	114	A	V
													V
													V

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 157 5785MHz		5616.4	48.26	-20.04	68.3	38.91	32.17	10.71	33.53	210	305	P	H
		5699	51.04	-53.52	104.56	41.66	32.27	10.67	33.56	210	305	P	H
		5715.6	52.82	-56.85	109.67	43.45	32.29	10.65	33.57	210	305	P	H
		5720.4	54.92	-56.89	111.81	45.53	32.31	10.65	33.57	210	305	P	H
		5785	109.6	-12.7	122.3	100.19	32.39	10.61	33.59	210	305	P	H
		5785	101.89	------	------	92.48	32.39	10.61	33.59	210	305	A	H
		5851	54.1	-65.92	120.02	44.45	32.48	10.78	33.61	210	305	P	H
		5863.6	51.31	-57.18	108.49	41.48	32.51	10.94	33.62	210	305	P	H
		5881	49.2	-51.64	100.84	39.35	32.53	10.94	33.62	210	305	P	H
		5941	50.6	-17.7	68.3	40.35	32.63	11.27	33.65	210	305	P	H
													H
													H
		5650	52.04	-16.26	68.3	42.67	32.22	10.69	33.54	100	114	P	V
		5698	53.46	-50.37	103.83	44.08	32.27	10.67	33.56	100	114	P	V
		5720	55.63	-55.27	110.9	46.24	32.31	10.65	33.57	100	114	P	V
		5724.8	58.83	-63.01	121.84	49.44	32.31	10.65	33.57	100	114	P	V
		5785	112.52	-9.78	122.3	103.11	32.39	10.61	33.59	100	114	P	V
		5785	104.73	------	------	95.32	32.39	10.61	33.59	100	114	A	V
		5853	52.54	-62.92	115.46	42.89	32.48	10.78	33.61	100	114	P	V
		5857	52.14	-58.2	110.34	42.46	32.51	10.78	33.61	100	114	P	V
		5902.2	49.96	-35.17	85.13	39.92	32.56	11.11	33.63	100	114	P	V
		5929	50.1	-18.2	68.3	40.03	32.6	11.11	33.64	100	114	P	V
													V
													V

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 165 5825MHz		5825	109.94	-12.36	122.3	100.3	32.46	10.78	33.6	205	305	P	H
		5825	102.12	------	------	92.48	32.46	10.78	33.6	205	305	A	H
		5850.2	69.75	-52.09	121.84	60.1	32.48	10.78	33.61	205	305	P	H
		5855	66.67	-44.23	110.9	56.99	32.51	10.78	33.61	205	305	P	H
		5875.2	54.66	-50.49	105.15	44.81	32.53	10.94	33.62	205	305	P	H
		5942.4	49.84	-18.46	68.3	39.59	32.63	11.27	33.65	205	305	P	H
													H
													H
		5825	111.17	-11.13	122.3	101.53	32.46	10.78	33.6	100	114	P	V
		5825	103.69	------	------	94.05	32.46	10.78	33.6	100	114	A	V
		5853.8	69.17	-44.47	113.64	59.49	32.51	10.78	33.61	100	114	P	V
		5855	64.25	-46.65	110.9	54.57	32.51	10.78	33.61	100	114	P	V
		5877.2	54.16	-49.51	103.67	44.31	32.53	10.94	33.62	100	114	P	V
		5937	49.37	-18.93	68.3	39.31	32.6	11.11	33.65	100	114	P	V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 149 5745MHz		11490	49.42	-24.58	74	59.66	39.91	15.59	65.74	100	0	P	H
		17235	51.34	-16.96	68.3	55.82	41	18.6	64.08	100	0	P	H
													H
													H
		11490	46.08	-27.92	74	56.32	39.91	15.59	65.74	100	0	P	V
		17235	52.75	-15.55	68.3	57.23	41	18.6	64.08	100	0	P	V
													V
													V
802.11a CH 157 5785MHz		11570	47.84	-26.16	74	58.1	39.76	15.64	65.66	100	0	P	H
		17355	49.66	-18.64	68.3	53.88	41.35	18.65	64.22	100	0	P	H
													H
													H
		11570	48.21	-25.79	74	58.47	39.76	15.64	65.66	100	0	P	V
		17355	51.88	-16.42	68.3	56.1	41.35	18.65	64.22	100	0	P	V
													V
													V
802.11a CH 165 5825MHz		11650	48.53	-25.47	74	58.84	39.62	15.69	65.62	100	0	P	H
		17475	52.82	-15.48	68.3	56.78	41.7	18.7	64.36	100	0	P	H
													H
													H
		11650	46.84	-27.16	74	57.15	39.62	15.69	65.62	100	0	P	V
		17475	49.61	-18.69	68.3	53.57	41.7	18.7	64.36	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 149 5745MHz		5626.8	49.03	-19.27	68.3	39.7	32.17	10.69	33.53	214	306	P	H
		5696.6	56.81	-45.98	102.79	47.43	32.27	10.67	33.56	214	306	P	H
		5717.4	68.93	-41.24	110.17	59.56	32.29	10.65	33.57	214	306	P	H
		5722.8	76.6	-40.68	117.28	67.21	32.31	10.65	33.57	214	306	P	H
		5745	109.71	-12.59	122.3	100.31	32.34	10.63	33.57	214	306	P	H
		5745	101.93	------	------	92.53	32.34	10.63	33.57	214	306	A	H
													H
													H
		5639.4	52.77	-15.53	68.3	43.43	32.19	10.69	33.54	100	114	P	V
		5695.2	61.14	-40.62	101.76	51.76	32.27	10.67	33.56	100	114	P	V
		5719.2	73.72	-36.96	110.68	64.33	32.31	10.65	33.57	100	114	P	V
		5723	79.29	-38.45	117.74	69.9	32.31	10.65	33.57	100	114	P	V
		5745	113.24	-9.06	122.3	103.84	32.34	10.63	33.57	100	114	P	V
		5745	105.02	------	------	95.62	32.34	10.63	33.57	100	114	A	V
													V
													V

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5607.8	48.46	-19.84	68.3	39.14	32.14	10.71	33.53	205	306	P	H
		5664.2	49.91	-28.93	78.84	40.57	32.22	10.67	33.55	205	306	P	H
		5708.2	52.44	-55.16	107.6	43.07	32.29	10.65	33.57	205	306	P	H
		5723.2	52.84	-65.36	118.2	43.45	32.31	10.65	33.57	205	306	P	H
		5785	109.41	-12.89	122.3	100	32.39	10.61	33.59	205	306	P	H
		5785	101.55	------	------	92.14	32.39	10.61	33.59	205	306	A	H
		5853.8	52.23	-61.41	113.64	42.55	32.51	10.78	33.61	205	306	P	H
		5855.8	51.45	-59.23	110.68	41.77	32.51	10.78	33.61	205	306	P	H
		5890	49.32	-44.85	94.17	39.45	32.56	10.94	33.63	205	306	P	H
		5927.2	49.56	-18.74	68.3	39.49	32.6	11.11	33.64	205	306	P	H
802.11n													H
HT20													H
CH 157		5631.2	51.25	-17.05	68.3	41.93	32.17	10.69	33.54	100	115	P	V
5785MHz		5697.6	53.38	-50.15	103.53	44	32.27	10.67	33.56	100	115	P	V
		5719.4	54.89	-55.84	110.73	45.5	32.31	10.65	33.57	100	115	P	V
		5724.2	58.3	-62.18	120.48	48.91	32.31	10.65	33.57	100	115	P	V
		5785	112.01	-10.29	122.3	102.6	32.39	10.61	33.59	100	115	P	V
		5785	104	------	------	94.59	32.39	10.61	33.59	100	115	A	V
		5852.2	51.98	-65.3	117.28	42.33	32.48	10.78	33.61	100	115	P	V
		5858	52.86	-57.2	110.06	43.19	32.51	10.78	33.62	100	115	P	V
		5879.4	51.01	-51.02	102.03	41.16	32.53	10.94	33.62	100	115	P	V
		5930.2	49.25	-19.05	68.3	39.18	32.6	11.11	33.64	100	115	P	V
													V
													V

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5825	109.86	-12.44	122.3	100.22	32.46	10.78	33.6	206	305	P	H
		5825	101.97	------	------	92.33	32.46	10.78	33.6	206	305	A	H
		5851.4	69.89	-49.22	119.11	60.24	32.48	10.78	33.61	206	305	P	H
		5859	67.27	-42.51	109.78	57.6	32.51	10.78	33.62	206	305	P	H
		5875.2	57.23	-47.92	105.15	47.38	32.53	10.94	33.62	206	305	P	H
		5949.4	49.83	-18.47	68.3	39.58	32.63	11.27	33.65	206	305	P	H
802.11n													H
HT20													H
CH 165		5825	111.65	-10.65	122.3	102.01	32.46	10.78	33.6	100	115	P	V
5825MHz		5825	103.35	------	------	93.71	32.46	10.78	33.6	100	115	A	V
		5852.4	69.73	-47.1	116.83	60.08	32.48	10.78	33.61	100	115	P	V
		5857.8	67.91	-42.2	110.11	58.24	32.51	10.78	33.62	100	115	P	V
		5878	57.05	-46.02	103.07	47.2	32.53	10.94	33.62	100	115	P	V
		5936	49.3	-19	68.3	39.24	32.6	11.11	33.65	100	115	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 149 5745MHz		11490	54.32	-19.68	74	64.56	39.91	15.59	65.74	164	22	P	H
		11490	45.09	-8.91	54	55.33	39.91	15.59	65.74	164	22	A	H
		17226	48.58	-19.72	68.3	53.09	40.95	18.6	64.06	100	0	P	H
													H
		11490	52.17	-21.83	74	62.41	39.91	15.59	65.74	335	360	P	V
		11490	43.23	-10.77	54	53.47	39.91	15.59	65.74	335	360	A	V
		17235	53.17	-15.13	68.3	57.65	41	18.6	64.08	100	0	P	V
													V
802.11n HT20 CH 157 5785MHz		11570	47.7	-26.3	74	57.96	39.76	15.64	65.66	100	0	P	H
		17355	48.92	-19.38	68.3	53.14	41.35	18.65	64.22	100	0	P	H
													H
													H
		11570	48.1	-25.9	74	58.36	39.76	15.64	65.66	100	0	P	V
		17355	50.61	-17.69	68.3	54.83	41.35	18.65	64.22	100	0	P	V
													V
													V
802.11n HT20 CH 165 5825MHz		11650	47.36	-26.64	74	57.67	39.62	15.69	65.62	100	0	P	H
		17475	53.73	-14.57	68.3	57.69	41.7	18.7	64.36	100	0	P	H
													H
													H
		11650	46.06	-27.94	74	56.37	39.62	15.69	65.62	100	0	P	V
		17475	48.21	-20.09	68.3	52.17	41.7	18.7	64.36	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5646.2	52.44	-15.86	68.3	43.1	32.19	10.69	33.54	204	310	P	H
		5697	66.87	-36.22	103.09	57.49	32.27	10.67	33.56	204	310	P	H
		5719.2	78.07	-32.61	110.68	68.68	32.31	10.65	33.57	204	310	P	H
		5723.6	78.45	-40.66	119.11	69.06	32.31	10.65	33.57	204	310	P	H
		5755	106.15	-16.15	122.3	96.73	32.36	10.63	33.57	204	310	P	H
		5755	98.94	------	------	89.52	32.36	10.63	33.57	204	310	A	H
		5850.6	54.51	-66.42	120.93	44.86	32.48	10.78	33.61	204	310	P	H
		5855.6	54.15	-56.58	110.73	44.47	32.51	10.78	33.61	204	310	P	H
		5881.8	51.5	-48.75	100.25	41.65	32.53	10.94	33.62	204	310	P	H
		5942.6	50.51	-17.79	68.3	40.26	32.63	11.27	33.65	204	310	P	H
802.11n													H
HT40													H
CH 151		5645.6	56.44	-11.86	68.3	47.1	32.19	10.69	33.54	100	115	P	V
5755MHz		5697.6	70.82	-32.71	103.53	61.44	32.27	10.67	33.56	100	115	P	V
		5719.6	81.7	-29.09	110.79	72.31	32.31	10.65	33.57	100	115	P	V
		5724.8	81.7	-40.14	121.84	72.31	32.31	10.65	33.57	100	115	P	V
		5755	109.48	-12.82	122.3	100.06	32.36	10.63	33.57	100	115	P	V
		5755	102.06	------	------	92.64	32.36	10.63	33.57	100	115	A	V
		5850.6	55.4	-65.53	120.93	45.75	32.48	10.78	33.61	100	115	P	V
		5855	53.99	-56.91	110.9	44.31	32.51	10.78	33.61	100	115	P	V
		5878.4	51.48	-51.29	102.77	41.63	32.53	10.94	33.62	100	115	P	V
		5930.4	49.23	-19.07	68.3	39.16	32.6	11.11	33.64	100	115	P	V
													V
													V

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5646.6	49.46	-18.84	68.3	40.12	32.19	10.69	33.54	200	305	P	H
		5698	54.67	-49.16	103.83	45.29	32.27	10.67	33.56	200	305	P	H
		5719	60.27	-50.35	110.62	50.88	32.31	10.65	33.57	200	305	P	H
		5724.8	59.85	-61.99	121.84	50.46	32.31	10.65	33.57	200	305	P	H
		5795	107.07	-15.23	122.3	97.64	32.41	10.61	33.59	200	305	P	H
		5795	99.05	------	------	89.62	32.41	10.61	33.59	200	305	A	H
		5851.6	65.09	-53.56	118.65	55.44	32.48	10.78	33.61	200	305	P	H
		5855.4	64.1	-46.69	110.79	54.42	32.51	10.78	33.61	200	305	P	H
		5877.2	58.05	-45.62	103.67	48.2	32.53	10.94	33.62	200	305	P	H
		5949.8	50.85	-17.45	68.3	40.6	32.63	11.27	33.65	200	305	P	H
802.11n													H
HT40													H
CH 159		5647	52.37	-15.93	68.3	43.03	32.19	10.69	33.54	101	114	P	V
5795MHz		5697.2	59.1	-44.14	103.24	49.72	32.27	10.67	33.56	101	114	P	V
		5719.4	64.66	-46.07	110.73	55.27	32.31	10.65	33.57	101	114	P	V
		5722.6	63.83	-53	116.83	54.44	32.31	10.65	33.57	101	114	P	V
		5795	108.45	-13.85	122.3	99.02	32.41	10.61	33.59	101	114	P	V
		5795	101.34	------	------	91.91	32.41	10.61	33.59	101	114	A	V
		5851.2	64.4	-55.16	119.56	54.75	32.48	10.78	33.61	101	114	P	V
		5860.2	62.21	-47.23	109.44	52.38	32.51	10.94	33.62	101	114	P	V
		5875.6	56.29	-48.56	104.85	46.44	32.53	10.94	33.62	101	114	P	V
		5940.4	49.57	-18.73	68.3	39.32	32.63	11.27	33.65	101	114	P	V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

Band 4 5725~5850MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 151 5755MHz		11510	47.91	-26.09	74	58.1	39.9	15.61	65.7	100	0	P	H
		17265	47.48	-20.82	68.3	51.88	41.1	18.62	64.12	100	0	P	H
													H
													H
		11510	47.85	-26.15	74	58.04	39.9	15.61	65.7	100	0	P	V
		17265	49.65	-18.65	68.3	54.05	41.1	18.62	64.12	100	0	P	V
													V
													V
802.11n HT40 CH 159 5795MHz		11590	48.68	-25.32	74	58.94	39.73	15.66	65.65	100	0	P	H
		17385	45.41	-22.89	68.3	49.56	41.45	18.66	64.26	100	0	P	H
													H
													H
		11590	44.79	-29.21	74	55.05	39.73	15.66	65.65	100	0	P	V
		17385	47.26	-21.04	68.3	51.41	41.45	18.66	64.26	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5649.6	61.34	-6.96	68.3	51.97	32.22	10.69	33.54	207	311	P	H
		5699.2	74.69	-30.02	104.71	65.31	32.27	10.67	33.56	207	311	P	H
		5718	77.38	-32.96	110.34	67.99	32.31	10.65	33.57	207	311	P	H
		5721.4	75.76	-38.33	114.09	66.37	32.31	10.65	33.57	207	311	P	H
		5775	104.28	-18.02	122.3	94.84	32.39	10.63	33.58	207	311	P	H
		5775	97.3	------	------	87.86	32.39	10.63	33.58	207	311	A	H
		5850.2	76.72	-45.12	121.84	67.07	32.48	10.78	33.61	207	311	P	H
		5856	73.84	-36.78	110.62	64.16	32.51	10.78	33.61	207	311	P	H
		5877	68.23	-35.58	103.81	58.38	32.53	10.94	33.62	207	311	P	H
		5928	57.97	-10.33	68.3	47.9	32.6	11.11	33.64	207	311	P	H
802.11ac													H
VHT80													H
CH 155		5647.6	66.38	-1.92	68.3	57.04	32.19	10.69	33.54	137	169	P	V
5775MHz		5698.4	77.76	-26.36	104.12	68.38	32.27	10.67	33.56	137	169	P	V
		5713.2	79.38	-29.62	109	70.01	32.29	10.65	33.57	137	169	P	V
		5724.2	79.94	-40.54	120.48	70.55	32.31	10.65	33.57	137	169	P	V
		5775	104.95	-17.35	122.3	95.51	32.39	10.63	33.58	137	169	P	V
		5775	98.28	------	------	88.84	32.39	10.63	33.58	137	169	A	V
		5850.2	73.45	-48.39	121.84	63.8	32.48	10.78	33.61	137	169	P	V
		5858.2	72	-38	110	62.33	32.51	10.78	33.62	137	169	P	V
		5879	64.86	-37.47	102.33	55.01	32.53	10.94	33.62	137	169	P	V
		5930.2	53.9	-14.4	68.3	43.83	32.6	11.11	33.64	137	169	P	V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 155 5775MHz		11550	44.61	-29.39	74	54.84	39.8	15.64	65.67	100	0	P	H
		17325	44.21	-24.09	68.3	48.51	41.25	18.63	64.18	100	0	P	H
													H
													H
		11550	42.85	-31.15	74	53.08	39.8	15.64	65.67	100	0	P	V
		17325	45.56	-22.74	68.3	49.86	41.25	18.63	64.18	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

5GHz WIFI 802.11ac VHT80 (LF @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
5GHz 802.11ac VHT80 LF		30.27	25.72	-14.28	40	30.92	25.7	0.93	31.83	100	254	P	H
		119.64	22.95	-20.55	43.5	35.6	17.65	1.48	31.78			P	H
		254.91	22.08	-23.92	46	32.67	19.2	1.98	31.77			P	H
		442.1	26.03	-19.97	46	31.03	23.16	3.68	31.84			P	H
		687.8	29.43	-16.57	46	31.44	26.58	3.45	32.04			P	H
		972.7	34.35	-19.65	54	30.76	30.55	3.89	30.85			P	H
													H
													H
													H
													H
													H
													H
		30.27	31.3	-8.7	40	36.5	25.7	0.93	31.83	100	89	P	V
		112.35	25.34	-18.16	43.5	38.3	17.34	1.48	31.78			P	V
		260.31	25.64	-20.36	46	35.58	19.7	2.13	31.77			P	V
		422.5	26.82	-19.18	46	32.14	22.82	3.68	31.82			P	V
		715.8	30.03	-15.97	46	31.5	27.01	3.54	32.02			P	V
		974.8	34.05	-19.95	54	30.45	30.55	3.89	30.84			P	V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Note symbol

*	**Fundamental Frequency** which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is **over limit** line.
P/A	**P**eak or **A**verage
H/V	**H**orizontal or **V**ertical

A calculation example for radiated spurious emission is shown as below:

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Level(dBμV/m) =

Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

2. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

Both peak and average measured complies with the limit line, so test result is "PASS".

Band 4 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 149 5745MHz		5631.8	50.11	-18.19	68.3	40.79	32.17	10.69	33.54	343	353	P	H
		5699.8	56.7	-48.45	105.15	47.32	32.27	10.67	33.56	343	353	P	H
		5719.2	72.93	-37.75	110.68	63.54	32.31	10.65	33.57	343	353	P	H
		5724.4	74.78	-46.15	120.93	65.39	32.31	10.65	33.57	343	353	P	H
		5745	110.18	-12.12	122.3	100.78	32.34	10.63	33.57	343	353	P	H
		5745	102.46	------	------	93.06	32.34	10.63	33.57	343	353	A	H
													H
													H
		5616.2	49.5	-18.8	68.3	40.15	32.17	10.71	33.53	145	28	P	V
		5700	60.92	-44.38	105.3	51.54	32.27	10.67	33.56	145	28	P	V
		5720	74.68	-36.22	110.9	65.29	32.31	10.65	33.57	145	28	P	V
		5724.8	74.93	-46.91	121.84	65.54	32.31	10.65	33.57	145	28	P	V
		5745	110.95	-11.35	122.3	101.55	32.34	10.63	33.57	145	28	P	V
		5745	103.16	------	------	93.76	32.34	10.63	33.57	145	28	A	V
													V
													V

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 157 5785MHz		5626.2	49.8	-18.5	68.3	40.47	32.17	10.69	33.53	356	354	P	H
		5655.8	49.78	-22.83	72.61	40.42	32.22	10.69	33.55	356	354	P	H
		5708.2	51.81	-55.79	107.6	42.44	32.29	10.65	33.57	356	354	P	H
		5724	52.43	-67.59	120.02	43.04	32.31	10.65	33.57	356	354	P	H
		5785	110	-12.3	122.3	100.59	32.39	10.61	33.59	356	354	P	H
		5785	102.34	------	------	92.93	32.39	10.61	33.59	356	354	A	H
		5852.2	51.69	-65.59	117.28	42.04	32.48	10.78	33.61	356	354	P	H
		5860.2	50.26	-59.18	109.44	40.43	32.51	10.94	33.62	356	354	P	H
		5912.2	50.14	-27.6	77.74	40.09	32.58	11.11	33.64	356	354	P	H
		5939.6	49.84	-18.46	68.3	39.75	32.63	11.11	33.65	356	354	P	H
													H
													H
		5627.2	52.86	-15.44	68.3	43.53	32.17	10.69	33.53	280	111	P	V
		5669.8	52.64	-30.35	82.99	43.28	32.24	10.67	33.55	280	111	P	V
		5717.6	54.18	-56.05	110.23	44.79	32.31	10.65	33.57	280	111	P	V
		5722.6	56.61	-60.22	116.83	47.22	32.31	10.65	33.57	280	111	P	V
		5785	113.03	-9.27	122.3	103.62	32.39	10.61	33.59	280	111	P	V
		5785	105.34	------	------	95.93	32.39	10.61	33.59	280	111	A	V
		5855	53.87	-57.03	110.9	44.19	32.51	10.78	33.61	280	111	P	V
		5855	53.87	-57.03	110.9	44.19	32.51	10.78	33.61	280	111	P	V
		5909	50.1	-30.01	80.11	40.05	32.58	11.11	33.64	280	111	P	V
		5947.8	50.14	-18.16	68.3	39.89	32.63	11.27	33.65	280	111	P	V
													V
													V

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5825	109.4	-12.9	122.3	99.76	32.46	10.78	33.6	351	355	P	H
		5825	101.83	------	------	92.19	32.46	10.78	33.6	351	355	A	H
		5850.2	67.97	-53.87	121.84	58.32	32.48	10.78	33.61	351	355	P	H
		5855	66.11	-44.79	110.9	56.43	32.51	10.78	33.61	351	355	P	H
		5876.6	55.65	-48.46	104.11	45.8	32.53	10.94	33.62	351	355	P	H
		5938.6	49.76	-18.54	68.3	39.67	32.63	11.11	33.65	351	355	P	H
													H
802.11a													H
CH 165		5825	111.16	-11.14	122.3	101.52	32.46	10.78	33.6	103	26	P	V
5825MHz		5825	103.42	------	------	93.78	32.46	10.78	33.6	103	26	A	V
		5850.2	71.95	-49.89	121.84	62.3	32.48	10.78	33.61	103	26	P	V
		5864	65.31	-43.07	108.38	55.48	32.51	10.94	33.62	103	26	P	V
		5875.2	56.62	-48.53	105.15	46.77	32.53	10.94	33.62	103	26	P	V
		5930.2	49.48	-18.82	68.3	39.41	32.6	11.11	33.64	103	26	P	V
													V
													V
													V

Remark

3. No other spurious found.
4. All results are PASS against Peak and Average limit line.

Band 4 5725~5850MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 149 5745MHz		11490	49.35	-24.65	74	59.59	39.91	15.59	65.74	100	0	P	H
		17235	40.2	-28.1	68.3	44.68	41	18.6	64.08	100	0	P	H
													H
													H
		11490	48.14	-25.86	74	58.38	39.91	15.59	65.74	100	0	P	V
		17235	42.21	-26.09	68.3	46.69	41	18.6	64.08	100	0	P	V
													V
													V
802.11a CH 157 5785MHz		11570	48.78	-25.22	74	59.04	39.76	15.64	65.66	100	0	P	H
		17355	40.58	-27.72	68.3	44.8	41.35	18.65	64.22	100	0	P	H
													H
													H
		11570	45.83	-28.17	74	56.09	39.76	15.64	65.66	100	0	P	V
		17355	40.43	-27.87	68.3	44.65	41.35	18.65	64.22	100	0	P	V
													V
													V
802.11a CH 165 5825MHz		11650	46.25	-27.75	74	56.56	39.62	15.69	65.62	100	0	P	H
		17475	40.84	-27.46	68.3	44.8	41.7	18.7	64.36	100	0	P	H
													H
													H
		11650	47.74	-26.26	74	58.05	39.62	15.69	65.62	100	0	P	V
		17475	40.86	-27.44	68.3	44.82	41.7	18.7	64.36	100	0	P	V
													V
													V
Remark	3. No other spurious found. 4. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5640.6	49.7	-18.6	68.3	40.36	32.19	10.69	33.54	345	353	P	H
		5696.4	61.38	-41.27	102.65	52	32.27	10.67	33.56	345	353	P	H
		5719.8	69.82	-41.02	110.84	60.43	32.31	10.65	33.57	345	353	P	H
		5723.2	74.54	-43.66	118.2	65.15	32.31	10.65	33.57	345	353	P	H
		5745	110.54	-11.76	122.3	101.14	32.34	10.63	33.57	345	353	P	H
		5745	102.18	------	------	92.78	32.34	10.63	33.57	345	353	A	H
802.11n													H
HT20													H
CH 149		5644.4	49.01	-19.29	68.3	39.67	32.19	10.69	33.54	122	27	P	V
5745MHz		5697	62.39	-40.7	103.09	53.01	32.27	10.67	33.56	122	27	P	V
		5717.4	71.67	-38.5	110.17	62.3	32.29	10.65	33.57	122	27	P	V
		5724.4	76.45	-44.48	120.93	67.06	32.31	10.65	33.57	122	27	P	V
		5745	110.75	-11.55	122.3	101.35	32.34	10.63	33.57	122	27	P	V
		5745	102.74	------	------	93.34	32.34	10.63	33.57	122	27	A	V
													V
													V

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5633.8	49.3	-19	68.3	39.96	32.19	10.69	33.54	345	354	P	H
		5655.4	50.04	-22.27	72.31	40.68	32.22	10.69	33.55	345	354	P	H
		5717.4	53.43	-56.74	110.17	44.06	32.29	10.65	33.57	345	354	P	H
		5722.6	54.27	-62.56	116.83	44.88	32.31	10.65	33.57	345	354	P	H
		5785	109.33	-12.97	122.3	99.92	32.39	10.61	33.59	345	354	P	H
		5785	101.66	------	------	92.25	32.39	10.61	33.59	345	354	A	H
		5851.6	51.77	-66.88	118.65	42.12	32.48	10.78	33.61	345	354	P	H
		5869.4	50.8	-56.07	106.87	40.97	32.51	10.94	33.62	345	354	P	H
		5889	49.31	-45.6	94.91	39.44	32.56	10.94	33.63	345	354	P	H
		5938	49.03	-19.27	68.3	38.97	32.6	11.11	33.65	345	354	P	H
802.11n													H
HT20													H
CH 157		5625.2	50.4	-17.9	68.3	41.07	32.17	10.69	33.53	118	26	P	V
5785MHz		5690.2	51.27	-46.8	98.07	41.89	32.27	10.67	33.56	118	26	P	V
		5719	52.77	-57.85	110.62	43.38	32.31	10.65	33.57	118	26	P	V
		5722.4	53.37	-63	116.37	43.98	32.31	10.65	33.57	118	26	P	V
		5785	110.44	-11.86	122.3	101.03	32.39	10.61	33.59	118	26	P	V
		5785	102.74	------	------	93.33	32.39	10.61	33.59	118	26	A	V
		5850	52.91	-69.39	122.3	43.26	32.48	10.78	33.61	118	26	P	V
		5865.4	53.24	-54.75	107.99	43.41	32.51	10.94	33.62	118	26	P	V
		5900.4	49.57	-36.89	86.46	39.53	32.56	11.11	33.63	118	26	P	V
		5933.2	50.32	-17.98	68.3	40.25	32.6	11.11	33.64	118	26	P	V
													V
													V

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5825	109.12	-13.18	122.3	99.48	32.46	10.78	33.6	348	360	P	H
		5825	101.29	------	------	91.65	32.46	10.78	33.6	348	360	A	H
		5850.6	69.4	-51.53	120.93	59.75	32.48	10.78	33.61	348	360	P	H
		5855	66.15	-44.75	110.9	56.47	32.51	10.78	33.61	348	360	P	H
		5875.2	55.05	-50.1	105.15	45.2	32.53	10.94	33.62	348	360	P	H
		5938.4	50.04	-18.26	68.3	39.98	32.6	11.11	33.65	348	360	P	H
802.11n													H
HT20													H
CH 165		5825	110.79	-11.51	122.3	101.15	32.46	10.78	33.6	108	27	P	V
5825MHz		5825	102.73	------	------	93.09	32.46	10.78	33.6	108	27	A	V
		5850.8	72.55	-47.93	120.48	62.9	32.48	10.78	33.61	108	27	P	V
		5857.2	68.33	-41.95	110.28	58.65	32.51	10.78	33.61	108	27	P	V
		5875.2	56.5	-48.65	105.15	46.65	32.53	10.94	33.62	108	27	P	V
		5949.6	49.48	-18.82	68.3	39.23	32.63	11.27	33.65	108	27	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 149 5745MHz		11490	49.79	-24.21	74	60.03	39.91	15.59	65.74	100	0	P	H
		17235	40.62	-27.68	68.3	45.1	41	18.6	64.08	100	0	P	H
													H
													H
		11490	49.07	-24.93	74	59.31	39.91	15.59	65.74	100	0	P	V
		17235	41.84	-26.46	68.3	46.32	41	18.6	64.08	100	0	P	V
													V
													V
802.11n HT20 CH 157 5785MHz		11570	48.89	-25.11	74	59.15	39.76	15.64	65.66	100	0	P	H
		17355	40.3	-28	68.3	44.52	41.35	18.65	64.22	100	0	P	H
													H
													H
		11570	45.7	-28.3	74	55.96	39.76	15.64	65.66	100	0	P	V
		17355	40.5	-27.8	68.3	44.72	41.35	18.65	64.22	100	0	P	V
													V
													V
802.11n HT20 CH 165 5825MHz		11650	47.28	-26.72	74	57.59	39.62	15.69	65.62	100	0	P	H
		17475	40.12	-28.18	68.3	44.08	41.7	18.7	64.36	100	0	P	H
													H
													H
		11650	46.18	-27.82	74	56.49	39.62	15.69	65.62	100	0	P	V
		17475	40.35	-27.95	68.3	44.31	41.7	18.7	64.36	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5646.8	56.52	-11.78	68.3	47.18	32.19	10.69	33.54	199	56	P	H
		5654	58.49	-12.78	71.27	49.13	32.22	10.69	33.55	199	56	P	H
		5719	80.89	-29.73	110.62	71.5	32.31	10.65	33.57	199	56	P	H
		5721.8	79.78	-35.22	115	70.39	32.31	10.65	33.57	199	56	P	H
		5755	108.85	-13.45	122.3	99.43	32.36	10.63	33.57	199	56	P	H
		5755	97.77	------	------	88.35	32.36	10.63	33.57	199	56	A	H
		5853.2	55.52	-59.48	115	45.87	32.48	10.78	33.61	199	56	P	H
		5861.4	54.23	-54.88	109.11	44.4	32.51	10.94	33.62	199	56	P	H
		5924.2	48.98	-19.91	68.89	38.91	32.6	11.11	33.64	199	56	P	H
		5929.2	48.76	-19.54	68.3	38.69	32.6	11.11	33.64	199	56	P	H
802.11n													H
HT40													H
CH 151		5649	58.65	-9.65	68.3	49.31	32.19	10.69	33.54	293	112	P	V
5755MHz		5651	56.45	-12.59	69.04	47.08	32.22	10.69	33.54	293	112	P	V
		5715.8	81.33	-28.4	109.73	71.96	32.29	10.65	33.57	293	112	P	V
		5721.4	81.49	-32.6	114.09	72.1	32.31	10.65	33.57	293	112	P	V
		5755	110.92	-11.38	122.3	101.5	32.36	10.63	33.57	293	112	P	V
		5755	99.78	------	------	90.36	32.36	10.63	33.57	293	112	A	V
		5851.4	58.03	-61.08	119.11	48.38	32.48	10.78	33.61	293	112	P	V
		5855.8	57.61	-53.07	110.68	47.93	32.51	10.78	33.61	293	112	P	V
		5923.2	48.95	-20.68	69.63	38.88	32.6	11.11	33.64	293	112	P	V
		5943	49.62	-18.68	68.3	39.37	32.63	11.27	33.65	293	112	P	V
													V
													V

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5638.2	51.37	-16.93	68.3	42.03	32.19	10.69	33.54	210	55	P	H
		5650.4	49.17	-19.43	68.6	39.8	32.22	10.69	33.54	210	55	P	H
		5714.8	62.11	-47.34	109.45	52.74	32.29	10.65	33.57	210	55	P	H
		5724.2	63.96	-56.52	120.48	54.57	32.31	10.65	33.57	210	55	P	H
		5795	108.93	-13.37	122.3	99.5	32.41	10.61	33.59	210	55	P	H
		5795	97.23	------	------	87.8	32.41	10.61	33.59	210	55	A	H
		5852.6	65.76	-50.61	116.37	56.11	32.48	10.78	33.61	210	55	P	H
		5857	62.05	-48.29	110.34	52.37	32.51	10.78	33.61	210	55	P	H
		5877.4	56.24	-47.28	103.52	46.39	32.53	10.94	33.62	210	55	P	H
		5932.8	51.52	-16.78	68.3	41.45	32.6	11.11	33.64	210	55	P	H
802.11n													H
HT40													H
CH 159		5644	52.39	-15.91	68.3	43.05	32.19	10.69	33.54	282	117	P	V
5795MHz		5695	60.47	-41.14	101.61	51.09	32.27	10.67	33.56	282	117	P	V
		5714	62.54	-46.68	109.22	53.17	32.29	10.65	33.57	282	117	P	V
		5724	65.91	-54.11	120.02	56.52	32.31	10.65	33.57	282	117	P	V
		5795	109.4	-12.9	122.3	99.97	32.41	10.61	33.59	282	117	P	V
		5795	98.87	------	------	89.44	32.41	10.61	33.59	282	117	A	V
		5854.2	66.53	-46.19	112.72	56.85	32.51	10.78	33.61	282	117	P	V
		5872.6	61.04	-44.93	105.97	51.19	32.53	10.94	33.62	282	117	P	V
		5921.2	53.02	-18.08	71.1	42.97	32.58	11.11	33.64	282	117	P	V
		5927	52.67	-15.63	68.3	42.6	32.6	11.11	33.64	282	117	P	V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

Band 4 5725~5850MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 151 5755MHz		11510	48.48	-25.52	74	58.67	39.9	15.61	65.7	100	0	P	H
		17265	40.63	-27.67	68.3	45.03	41.1	18.62	64.12	100	0	P	H
													H
													H
		11510	47.78	-26.22	74	57.97	39.9	15.61	65.7	100	0	P	V
		17265	40.47	-27.83	68.3	44.87	41.1	18.62	64.12	100	0	P	V
													V
													V
802.11n HT40 CH 159 5795MHz		11590	46.13	-27.87	74	56.39	39.73	15.66	65.65	100	0	P	H
		17385	40.95	-27.35	68.3	45.1	41.45	18.66	64.26	100	0	P	H
													H
													H
		11590	45.27	-28.73	74	55.53	39.73	15.66	65.65	100	0	P	V
		17385	41	-27.3	68.3	45.15	41.45	18.66	64.26	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5650	66.72	-1.58	68.3	57.35	32.22	10.69	33.54	203	111	P	H
		5651.2	66.41	-2.78	69.19	57.04	32.22	10.69	33.54	203	111	P	H
		5700.2	77.4	-27.96	105.36	68.04	32.27	10.65	33.56	203	111	P	H
		5723.4	77.62	-41.03	118.65	68.23	32.31	10.65	33.57	203	111	P	H
		5775	106.57	-15.73	122.3	97.13	32.39	10.63	33.58	203	111	P	H
		5775	96.59	------	------	87.15	32.39	10.63	33.58	203	111	A	H
		5854.8	71.12	-40.24	111.36	61.44	32.51	10.78	33.61	203	111	P	H
		5874.6	69.33	-36.08	105.41	59.48	32.53	10.94	33.62	203	111	P	H
		5922.8	58.77	-11.15	69.92	48.7	32.6	11.11	33.64	203	111	P	H
		5925.6	58.14	-10.16	68.3	48.07	32.6	11.11	33.64	203	111	P	H
802.11ac													H
VHT80													H
CH 155		5647.6	67.8	-0.5	68.3	58.46	32.19	10.69	33.54	283	112	P	V
5775MHz		5650.4	68.1	-0.5	68.6	58.73	32.22	10.69	33.54	283	112	P	V
		5702.4	78.38	-27.59	105.97	69	32.29	10.65	33.56	283	112	P	V
		5721.4	79.08	-35.01	114.09	69.69	32.31	10.65	33.57	283	112	P	V
		5775	108.13	-14.17	122.3	98.69	32.39	10.63	33.58	283	112	P	V
		5775	98.11	------	------	88.67	32.39	10.63	33.58	283	112	A	V
		5853.2	76.53	-38.47	115	66.88	32.48	10.78	33.61	283	112	P	V
		5868.8	75.15	-31.88	107.03	65.32	32.51	10.94	33.62	283	112	P	V
		5921.8	56.46	-14.2	70.66	46.39	32.6	11.11	33.64	283	112	P	V
		5927	58.28	-10.02	68.3	48.21	32.6	11.11	33.64	283	112	P	V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 155 5775MHz		11550	44.18	-29.82	74	54.41	39.8	15.64	65.67	100	0	P	H
		17325	39.79	-28.51	68.3	44.09	41.25	18.63	64.18	100	0	P	H
													H
													H
		11550	41.11	-32.89	74	51.34	39.8	15.64	65.67	100	0	P	V
		17325	39.49	-28.81	68.3	43.79	41.25	18.63	64.18	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

5GHz WIFI 802.11ac VHT80 (LF @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
5GHz 802.11ac VHT80 LF		30.27	25.85	-14.15	40	31.05	25.7	0.93	31.83	100	265	P	H
		148.26	23.87	-19.63	43.5	36.48	17.49	1.68	31.78			P	H
		260.58	22.35	-23.65	46	32.33	19.66	2.13	31.77			P	H
		496	26.94	-19.06	46	31.95	24.02	2.86	31.89			P	H
		688.5	29.55	-16.45	46	31.56	26.58	3.45	32.04			P	H
		944.7	34.09	-11.91	46	30.81	30.46	3.89	31.07			P	H
													H
													H
													H
													H
													H
													H
		31.62	32.72	-7.28	40	38.96	24.66	0.93	31.83	100	91	P	V
		113.16	25.31	-18.19	43.5	38.23	17.38	1.48	31.78			P	V
		254.64	23.69	-22.31	46	34.28	19.2	1.98	31.77			P	V
		423.2	25.95	-20.05	46	31.27	22.82	3.68	31.82			P	V
		724.9	29.58	-16.42	46	30.86	27.19	3.54	32.01			P	V
		975.5	34.33	-19.67	54	30.73	30.55	3.89	30.84			P	V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Note symbol

*	**Fundamental Frequency** which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is **over limit** line.
P/A	**P**eak or **A**verage
H/V	**H**orizontal or **V**ertical

A calculation example for radiated spurious emission is shown as below:

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Level(dBµV/m) =

Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBµV) - Preamp Factor(dB)

2. Over Limit(dB) = Level(dBµV/m) – Limit Line(dBµV/m)

For Peak Limit @ 2390MHz:

1. Level(dBµV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBµV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 54.51(dBµV) – 35.86 (dB)

= 55.45 (dBµV/m)

2. Over Limit(dB)

= Level(dBµV/m) – Limit Line(dBµV/m)

= 55.45(dBµV/m) – 74(dBµV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBµV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBµV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 42.6(dBµV) – 35.86 (dB)

= 43.54 (dBµV/m)

2. Over Limit(dB)

= Level(dBµV/m) – Limit Line(dBµV/m)

= 43.54(dBµV/m) – 54(dBµV/m)

= -10.46(dB)

Both peak and average measured complies with the limit line, so test result is "PASS".

Band 4 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 149 5745MHz		5631.8	50.11	-18.19	68.3	40.79	32.17	10.69	33.54	343	353	P	H
		5699.8	56.7	-48.45	105.15	47.32	32.27	10.67	33.56	343	353	P	H
		5719.2	72.93	-37.75	110.68	63.54	32.31	10.65	33.57	343	353	P	H
		5724.4	74.78	-46.15	120.93	65.39	32.31	10.65	33.57	343	353	P	H
		5745	110.18	-12.12	122.3	100.78	32.34	10.63	33.57	343	353	P	H
		5745	102.46	------	------	93.06	32.34	10.63	33.57	343	353	A	H
													H
													H
		5616.2	49.5	-18.8	68.3	40.15	32.17	10.71	33.53	145	28	P	V
		5700	60.92	-44.38	105.3	51.54	32.27	10.67	33.56	145	28	P	V
		5720	74.68	-36.22	110.9	65.29	32.31	10.65	33.57	145	28	P	V
		5724.8	74.93	-46.91	121.84	65.54	32.31	10.65	33.57	145	28	P	V
		5745	110.95	-11.35	122.3	101.55	32.34	10.63	33.57	145	28	P	V
		5745	103.16	------	------	93.76	32.34	10.63	33.57	145	28	A	V
													V
													V

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 157 5785MHz		5626.2	49.8	-18.5	68.3	40.47	32.17	10.69	33.53	356	354	P	H
		5655.8	49.78	-22.83	72.61	40.42	32.22	10.69	33.55	356	354	P	H
		5708.2	51.81	-55.79	107.6	42.44	32.29	10.65	33.57	356	354	P	H
		5724	52.43	-67.59	120.02	43.04	32.31	10.65	33.57	356	354	P	H
		5785	110	-12.3	122.3	100.59	32.39	10.61	33.59	356	354	P	H
		5785	102.34	------	------	92.93	32.39	10.61	33.59	356	354	A	H
		5852.2	51.69	-65.59	117.28	42.04	32.48	10.78	33.61	356	354	P	H
		5860.2	50.26	-59.18	109.44	40.43	32.51	10.94	33.62	356	354	P	H
		5912.2	50.14	-27.6	77.74	40.09	32.58	11.11	33.64	356	354	P	H
		5939.6	49.84	-18.46	68.3	39.75	32.63	11.11	33.65	356	354	P	H
													H
													H
		5627.2	52.86	-15.44	68.3	43.53	32.17	10.69	33.53	280	111	P	V
		5669.8	52.64	-30.35	82.99	43.28	32.24	10.67	33.55	280	111	P	V
		5717.6	54.18	-56.05	110.23	44.79	32.31	10.65	33.57	280	111	P	V
		5722.6	56.61	-60.22	116.83	47.22	32.31	10.65	33.57	280	111	P	V
		5785	113.03	-9.27	122.3	103.62	32.39	10.61	33.59	280	111	P	V
		5785	105.34	------	------	95.93	32.39	10.61	33.59	280	111	A	V
		5855	53.87	-57.03	110.9	44.19	32.51	10.78	33.61	280	111	P	V
		5855	53.87	-57.03	110.9	44.19	32.51	10.78	33.61	280	111	P	V
		5909	50.1	-30.01	80.11	40.05	32.58	11.11	33.64	280	111	P	V
		5947.8	50.14	-18.16	68.3	39.89	32.63	11.27	33.65	280	111	P	V
													V
													V

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5825	109.4	-12.9	122.3	99.76	32.46	10.78	33.6	351	355	P	H
		5825	101.83	------	------	92.19	32.46	10.78	33.6	351	355	A	H
		5850.2	67.97	-53.87	121.84	58.32	32.48	10.78	33.61	351	355	P	H
		5855	66.11	-44.79	110.9	56.43	32.51	10.78	33.61	351	355	P	H
		5876.6	55.65	-48.46	104.11	45.8	32.53	10.94	33.62	351	355	P	H
		5938.6	49.76	-18.54	68.3	39.67	32.63	11.11	33.65	351	355	P	H
													H
802.11a													H
CH 165		5825	111.16	-11.14	122.3	101.52	32.46	10.78	33.6	103	26	P	V
5825MHz		5825	103.42	------	------	93.78	32.46	10.78	33.6	103	26	A	V
		5850.2	71.95	-49.89	121.84	62.3	32.48	10.78	33.61	103	26	P	V
		5864	65.31	-43.07	108.38	55.48	32.51	10.94	33.62	103	26	P	V
		5875.2	56.62	-48.53	105.15	46.77	32.53	10.94	33.62	103	26	P	V
		5930.2	49.48	-18.82	68.3	39.41	32.6	11.11	33.64	103	26	P	V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

Band 4 5725~5850MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 149 5745MHz		11490	49.35	-24.65	74	59.59	39.91	15.59	65.74	100	0	P	H
		17235	40.2	-28.1	68.3	44.68	41	18.6	64.08	100	0	P	H
													H
													H
		11490	48.14	-25.86	74	58.38	39.91	15.59	65.74	100	0	P	V
		17235	42.21	-26.09	68.3	46.69	41	18.6	64.08	100	0	P	V
													V
													V
802.11a CH 157 5785MHz		11570	48.78	-25.22	74	59.04	39.76	15.64	65.66	100	0	P	H
		17355	40.58	-27.72	68.3	44.8	41.35	18.65	64.22	100	0	P	H
													H
													H
		11570	45.83	-28.17	74	56.09	39.76	15.64	65.66	100	0	P	V
		17355	40.43	-27.87	68.3	44.65	41.35	18.65	64.22	100	0	P	V
													V
													V
802.11a CH 165 5825MHz		11650	46.25	-27.75	74	56.56	39.62	15.69	65.62	100	0	P	H
		17475	40.84	-27.46	68.3	44.8	41.7	18.7	64.36	100	0	P	H
													H
													H
		11650	47.74	-26.26	74	58.05	39.62	15.69	65.62	100	0	P	V
		17475	40.86	-27.44	68.3	44.82	41.7	18.7	64.36	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5640.6	49.7	-18.6	68.3	40.36	32.19	10.69	33.54	345	353	P	H
		5696.4	61.38	-41.27	102.65	52	32.27	10.67	33.56	345	353	P	H
		5719.8	69.82	-41.02	110.84	60.43	32.31	10.65	33.57	345	353	P	H
		5723.2	74.54	-43.66	118.2	65.15	32.31	10.65	33.57	345	353	P	H
		5745	110.54	-11.76	122.3	101.14	32.34	10.63	33.57	345	353	P	H
		5745	102.18	------	------	92.78	32.34	10.63	33.57	345	353	A	H
802.11n													H
HT20													H
CH 149		5644.4	49.01	-19.29	68.3	39.67	32.19	10.69	33.54	122	27	P	V
5745MHz		5697	62.39	-40.7	103.09	53.01	32.27	10.67	33.56	122	27	P	V
		5717.4	71.67	-38.5	110.17	62.3	32.29	10.65	33.57	122	27	P	V
		5724.4	76.45	-44.48	120.93	67.06	32.31	10.65	33.57	122	27	P	V
		5745	110.75	-11.55	122.3	101.35	32.34	10.63	33.57	122	27	P	V
		5745	102.74	------	------	93.34	32.34	10.63	33.57	122	27	A	V
													V
													V

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5633.8	49.3	-19	68.3	39.96	32.19	10.69	33.54	345	354	P	H
		5655.4	50.04	-22.27	72.31	40.68	32.22	10.69	33.55	345	354	P	H
		5717.4	53.43	-56.74	110.17	44.06	32.29	10.65	33.57	345	354	P	H
		5722.6	54.27	-62.56	116.83	44.88	32.31	10.65	33.57	345	354	P	H
		5785	109.33	-12.97	122.3	99.92	32.39	10.61	33.59	345	354	P	H
		5785	101.66	------	------	92.25	32.39	10.61	33.59	345	354	A	H
		5851.6	51.77	-66.88	118.65	42.12	32.48	10.78	33.61	345	354	P	H
		5869.4	50.8	-56.07	106.87	40.97	32.51	10.94	33.62	345	354	P	H
		5889	49.31	-45.6	94.91	39.44	32.56	10.94	33.63	345	354	P	H
		5938	49.03	-19.27	68.3	38.97	32.6	11.11	33.65	345	354	P	H
802.11n													H
HT20													H
CH 157		5625.2	50.4	-17.9	68.3	41.07	32.17	10.69	33.53	118	26	P	V
5785MHz		5690.2	51.27	-46.8	98.07	41.89	32.27	10.67	33.56	118	26	P	V
		5719	52.77	-57.85	110.62	43.38	32.31	10.65	33.57	118	26	P	V
		5722.4	53.37	-63	116.37	43.98	32.31	10.65	33.57	118	26	P	V
		5785	110.44	-11.86	122.3	101.03	32.39	10.61	33.59	118	26	P	V
		5785	102.74	------	------	93.33	32.39	10.61	33.59	118	26	A	V
		5850	52.91	-69.39	122.3	43.26	32.48	10.78	33.61	118	26	P	V
		5865.4	53.24	-54.75	107.99	43.41	32.51	10.94	33.62	118	26	P	V
		5900.4	49.57	-36.89	86.46	39.53	32.56	11.11	33.63	118	26	P	V
		5933.2	50.32	-17.98	68.3	40.25	32.6	11.11	33.64	118	26	P	V
													V
													V

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5825	109.12	-13.18	122.3	99.48	32.46	10.78	33.6	348	360	P	H
		5825	101.29	------	------	91.65	32.46	10.78	33.6	348	360	A	H
		5850.6	69.4	-51.53	120.93	59.75	32.48	10.78	33.61	348	360	P	H
		5855	66.15	-44.75	110.9	56.47	32.51	10.78	33.61	348	360	P	H
		5875.2	55.05	-50.1	105.15	45.2	32.53	10.94	33.62	348	360	P	H
		5938.4	50.04	-18.26	68.3	39.98	32.6	11.11	33.65	348	360	P	H
802.11n													H
HT20													H
CH 165		5825	110.79	-11.51	122.3	101.15	32.46	10.78	33.6	108	27	P	V
5825MHz		5825	102.73	------	------	93.09	32.46	10.78	33.6	108	27	A	V
		5850.8	72.55	-47.93	120.48	62.9	32.48	10.78	33.61	108	27	P	V
		5857.2	68.33	-41.95	110.28	58.65	32.51	10.78	33.61	108	27	P	V
		5875.2	56.5	-48.65	105.15	46.65	32.53	10.94	33.62	108	27	P	V
		5949.6	49.48	-18.82	68.3	39.23	32.63	11.27	33.65	108	27	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 149 5745MHz		11490	49.79	-24.21	74	60.03	39.91	15.59	65.74	100	0	P	H
		17235	40.62	-27.68	68.3	45.1	41	18.6	64.08	100	0	P	H
													H
													H
		11490	49.07	-24.93	74	59.31	39.91	15.59	65.74	100	0	P	V
		17235	41.84	-26.46	68.3	46.32	41	18.6	64.08	100	0	P	V
													V
													V
802.11n HT20 CH 157 5785MHz		11570	48.89	-25.11	74	59.15	39.76	15.64	65.66	100	0	P	H
		17355	40.3	-28	68.3	44.52	41.35	18.65	64.22	100	0	P	H
													H
													H
		11570	45.7	-28.3	74	55.96	39.76	15.64	65.66	100	0	P	V
		17355	40.5	-27.8	68.3	44.72	41.35	18.65	64.22	100	0	P	V
													V
													V
802.11n HT20 CH 165 5825MHz		11650	47.28	-26.72	74	57.59	39.62	15.69	65.62	100	0	P	H
		17475	40.12	-28.18	68.3	44.08	41.7	18.7	64.36	100	0	P	H
													H
													H
		11650	46.18	-27.82	74	56.49	39.62	15.69	65.62	100	0	P	V
		17475	40.35	-27.95	68.3	44.31	41.7	18.7	64.36	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5646.8	56.52	-11.78	68.3	47.18	32.19	10.69	33.54	199	56	P	H
		5654	58.49	-12.78	71.27	49.13	32.22	10.69	33.55	199	56	P	H
		5719	80.89	-29.73	110.62	71.5	32.31	10.65	33.57	199	56	P	H
		5721.8	79.78	-35.22	115	70.39	32.31	10.65	33.57	199	56	P	H
		5755	108.85	-13.45	122.3	99.43	32.36	10.63	33.57	199	56	P	H
		5755	97.77	------	------	88.35	32.36	10.63	33.57	199	56	A	H
		5853.2	55.52	-59.48	115	45.87	32.48	10.78	33.61	199	56	P	H
		5861.4	54.23	-54.88	109.11	44.4	32.51	10.94	33.62	199	56	P	H
		5924.2	48.98	-19.91	68.89	38.91	32.6	11.11	33.64	199	56	P	H
		5929.2	48.76	-19.54	68.3	38.69	32.6	11.11	33.64	199	56	P	H
802.11n													H
HT40													H
CH 151		5649	58.65	-9.65	68.3	49.31	32.19	10.69	33.54	293	112	P	V
5755MHz		5651	56.45	-12.59	69.04	47.08	32.22	10.69	33.54	293	112	P	V
		5715.8	81.33	-28.4	109.73	71.96	32.29	10.65	33.57	293	112	P	V
		5721.4	81.49	-32.6	114.09	72.1	32.31	10.65	33.57	293	112	P	V
		5755	110.92	-11.38	122.3	101.5	32.36	10.63	33.57	293	112	P	V
		5755	99.78	------	------	90.36	32.36	10.63	33.57	293	112	A	V
		5851.4	58.03	-61.08	119.11	48.38	32.48	10.78	33.61	293	112	P	V
		5855.8	57.61	-53.07	110.68	47.93	32.51	10.78	33.61	293	112	P	V
		5923.2	48.95	-20.68	69.63	38.88	32.6	11.11	33.64	293	112	P	V
		5943	49.62	-18.68	68.3	39.37	32.63	11.27	33.65	293	112	P	V
													V
													V

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5638.2	51.37	-16.93	68.3	42.03	32.19	10.69	33.54	210	55	P	H
		5650.4	49.17	-19.43	68.6	39.8	32.22	10.69	33.54	210	55	P	H
		5714.8	62.11	-47.34	109.45	52.74	32.29	10.65	33.57	210	55	P	H
		5724.2	63.96	-56.52	120.48	54.57	32.31	10.65	33.57	210	55	P	H
		5795	108.93	-13.37	122.3	99.5	32.41	10.61	33.59	210	55	P	H
		5795	97.23	------	------	87.8	32.41	10.61	33.59	210	55	A	H
		5852.6	65.76	-50.61	116.37	56.11	32.48	10.78	33.61	210	55	P	H
		5857	62.05	-48.29	110.34	52.37	32.51	10.78	33.61	210	55	P	H
		5877.4	56.24	-47.28	103.52	46.39	32.53	10.94	33.62	210	55	P	H
		5932.8	51.52	-16.78	68.3	41.45	32.6	11.11	33.64	210	55	P	H
802.11n													H
HT40													H
CH 159		5644	52.39	-15.91	68.3	43.05	32.19	10.69	33.54	282	117	P	V
5795MHz		5695	60.47	-41.14	101.61	51.09	32.27	10.67	33.56	282	117	P	V
		5714	62.54	-46.68	109.22	53.17	32.29	10.65	33.57	282	117	P	V
		5724	65.91	-54.11	120.02	56.52	32.31	10.65	33.57	282	117	P	V
		5795	109.4	-12.9	122.3	99.97	32.41	10.61	33.59	282	117	P	V
		5795	98.87	------	------	89.44	32.41	10.61	33.59	282	117	A	V
		5854.2	66.53	-46.19	112.72	56.85	32.51	10.78	33.61	282	117	P	V
		5872.6	61.04	-44.93	105.97	51.19	32.53	10.94	33.62	282	117	P	V
		5921.2	53.02	-18.08	71.1	42.97	32.58	11.11	33.64	282	117	P	V
		5927	52.67	-15.63	68.3	42.6	32.6	11.11	33.64	282	117	P	V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

Band 4 5725~5850MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 151 5755MHz		11510	48.48	-25.52	74	58.67	39.9	15.61	65.7	100	0	P	H
		17265	40.63	-27.67	68.3	45.03	41.1	18.62	64.12	100	0	P	H
													H
													H
		11510	47.78	-26.22	74	57.97	39.9	15.61	65.7	100	0	P	V
		17265	40.47	-27.83	68.3	44.87	41.1	18.62	64.12	100	0	P	V
													V
													V
802.11n HT40 CH 159 5795MHz		11590	46.13	-27.87	74	56.39	39.73	15.66	65.65	100	0	P	H
		17385	40.95	-27.35	68.3	45.1	41.45	18.66	64.26	100	0	P	H
													H
													H
		11590	45.27	-28.73	74	55.53	39.73	15.66	65.65	100	0	P	V
		17385	41	-27.3	68.3	45.15	41.45	18.66	64.26	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5650	66.72	-1.58	68.3	57.35	32.22	10.69	33.54	203	111	P	H
		5651.2	66.41	-2.78	69.19	57.04	32.22	10.69	33.54	203	111	P	H
		5700.2	77.4	-27.96	105.36	68.04	32.27	10.65	33.56	203	111	P	H
		5723.4	77.62	-41.03	118.65	68.23	32.31	10.65	33.57	203	111	P	H
		5775	106.57	-15.73	122.3	97.13	32.39	10.63	33.58	203	111	P	H
		5775	96.59	------	------	87.15	32.39	10.63	33.58	203	111	A	H
		5854.8	71.12	-40.24	111.36	61.44	32.51	10.78	33.61	203	111	P	H
		5874.6	69.33	-36.08	105.41	59.48	32.53	10.94	33.62	203	111	P	H
		5922.8	58.77	-11.15	69.92	48.7	32.6	11.11	33.64	203	111	P	H
		5925.6	58.14	-10.16	68.3	48.07	32.6	11.11	33.64	203	111	P	H
802.11ac													H
VHT80													H
CH 155		5647.6	67.8	-0.5	68.3	58.46	32.19	10.69	33.54	283	112	P	V
5775MHz		5650.4	68.1	-0.5	68.6	58.73	32.22	10.69	33.54	283	112	P	V
		5702.4	78.38	-27.59	105.97	69	32.29	10.65	33.56	283	112	P	V
		5721.4	79.08	-35.01	114.09	69.69	32.31	10.65	33.57	283	112	P	V
		5775	108.13	-14.17	122.3	98.69	32.39	10.63	33.58	283	112	P	V
		5775	98.11	------	------	88.67	32.39	10.63	33.58	283	112	A	V
		5853.2	76.53	-38.47	115	66.88	32.48	10.78	33.61	283	112	P	V
		5868.8	75.15	-31.88	107.03	65.32	32.51	10.94	33.62	283	112	P	V
		5921.8	56.46	-14.2	70.66	46.39	32.6	11.11	33.64	283	112	P	V
		5927	58.28	-10.02	68.3	48.21	32.6	11.11	33.64	283	112	P	V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 155 5775MHz		11550	44.18	-29.82	74	54.41	39.8	15.64	65.67	100	0	P	H
		17325	39.79	-28.51	68.3	44.09	41.25	18.63	64.18	100	0	P	H
													H
													H
		11550	41.11	-32.89	74	51.34	39.8	15.64	65.67	100	0	P	V
		17325	39.49	-28.81	68.3	43.79	41.25	18.63	64.18	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

5GHz WIFI 802.11ac VHT80 (LF @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
5GHz 802.11ac VHT80 LF		30.27	25.85	-14.15	40	31.05	25.7	0.93	31.83	100	265	P	H
		148.26	23.87	-19.63	43.5	36.48	17.49	1.68	31.78			P	H
		260.58	22.35	-23.65	46	32.33	19.66	2.13	31.77			P	H
		496	26.94	-19.06	46	31.95	24.02	2.86	31.89			P	H
		688.5	29.55	-16.45	46	31.56	26.58	3.45	32.04			P	H
		944.7	34.09	-11.91	46	30.81	30.46	3.89	31.07			P	H
													H
													H
													H
													H
													H
													H
		31.62	32.72	-7.28	40	38.96	24.66	0.93	31.83	100	91	P	V
		113.16	25.31	-18.19	43.5	38.23	17.38	1.48	31.78			P	V
		254.64	23.69	-22.31	46	34.28	19.2	1.98	31.77			P	V
		423.2	25.95	-20.05	46	31.27	22.82	3.68	31.82			P	V
		724.9	29.58	-16.42	46	30.86	27.19	3.54	32.01			P	V
		975.5	34.33	-19.67	54	30.73	30.55	3.89	30.84			P	V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Note symbol

*	**Fundamental Frequency** which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is **over limit** line.
P/A	**P**eak or **A**verage
H/V	**H**orizontal or **V**ertical

A calculation example for radiated spurious emission is shown as below:

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Level(dBμV/m) =

Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

2. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

Both peak and average measured complies with the limit line, so test result is "PASS".

Band 4 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 149 5745MHz		5631.4	50.7	-17.6	68.3	41.38	32.17	10.69	33.54	199	105	P	H
		5652.4	49.87	-20.21	70.08	40.5	32.22	10.69	33.54	199	105	P	H
		5718.8	75.81	-34.75	110.56	66.42	32.31	10.65	33.57	199	105	P	H
		5724	78.64	-41.38	120.02	69.25	32.31	10.65	33.57	199	105	P	H
		5745	113.3	-9	122.3	103.9	32.34	10.63	33.57	199	105	P	H
		5745	103.27	------	------	93.87	32.34	10.63	33.57	199	105	A	H
													H
													H
		5644.2	53.67	-14.63	68.3	44.33	32.19	10.69	33.54	299	114	P	V
		5650.8	52.62	-16.27	68.89	43.25	32.22	10.69	33.54	299	114	P	V
		5719.8	79.59	-31.25	110.84	70.2	32.31	10.65	33.57	299	114	P	V
		5724.6	82.41	-38.98	121.39	73.02	32.31	10.65	33.57	299	114	P	V
		5745	116.39	-5.91	122.3	106.99	32.34	10.63	33.57	299	114	P	V
		5745	106.44	------	------	97.04	32.34	10.63	33.57	299	114	A	V
													V
													V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 157 5785MHz		5635.8	49.79	-18.51	68.3	40.45	32.19	10.69	33.54	200	109	P	H
		5653.8	49.23	-21.89	71.12	39.87	32.22	10.69	33.55	200	109	P	H
		5718	53.42	-56.92	110.34	44.03	32.31	10.65	33.57	200	109	P	H
		5721	55.63	-57.55	113.18	46.24	32.31	10.65	33.57	200	109	P	H
		5785	112.83	-9.47	122.3	103.42	32.39	10.61	33.59	200	109	P	H
		5785	103.11	------	------	93.7	32.39	10.61	33.59	200	109	A	H
		5850	54.67	-67.63	122.3	45.02	32.48	10.78	33.61	200	109	P	H
		5858.6	53.01	-56.88	109.89	43.34	32.51	10.78	33.62	200	109	P	H
		5921.8	49.96	-20.7	70.66	39.89	32.6	11.11	33.64	200	109	P	H
		5947.8	50.15	-18.15	68.3	39.9	32.63	11.27	33.65	200	109	P	H
													H
													H
		5621.6	55.29	-13.01	68.3	45.96	32.17	10.69	33.53	295	113	P	V
		5651.8	51.6	-18.04	69.64	42.23	32.22	10.69	33.54	295	113	P	V
		5714.8	55.43	-54.02	109.45	46.06	32.29	10.65	33.57	295	113	P	V
		5725	57.97	-64.33	122.3	48.58	32.31	10.65	33.57	295	113	P	V
		5785	116.21	-6.09	122.3	106.8	32.39	10.61	33.59	295	113	P	V
		5785	106.21	------	------	96.8	32.39	10.61	33.59	295	113	A	V
		5852.8	56.14	-59.78	115.92	46.49	32.48	10.78	33.61	295	113	P	V
		5858.6	56.04	-53.85	109.89	46.37	32.51	10.78	33.62	295	113	P	V
		5922.8	49.48	-20.44	69.92	39.41	32.6	11.11	33.64	295	113	P	V
		5926.4	49.89	-18.41	68.3	39.82	32.6	11.11	33.64	295	113	P	V
													V
													V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5825	113.73	-8.57	122.3	104.09	32.46	10.78	33.6	199	114	P	H
		5825	103.9	------	------	94.26	32.46	10.78	33.6	199	114	A	H
		5853.4	73.17	-41.38	114.55	63.52	32.48	10.78	33.61	199	114	P	H
		5855.2	72.74	-38.1	110.84	63.06	32.51	10.78	33.61	199	114	P	H
		5923.6	50.19	-19.14	69.33	40.12	32.6	11.11	33.64	199	114	P	H
		5940.6	51.23	-17.07	68.3	40.98	32.63	11.27	33.65	199	114	P	H
													H
802.11a													H
CH 165		5825	115.98	-6.32	122.3	106.34	32.46	10.78	33.6	246	112	P	V
5825MHz		5825	105.68	------	------	96.04	32.46	10.78	33.6	246	112	A	V
		5853	76.9	-38.56	115.46	67.25	32.48	10.78	33.61	246	112	P	V
		5858.6	73.32	-36.57	109.89	63.65	32.51	10.78	33.62	246	112	P	V
		5923.2	49.49	-20.14	69.63	39.42	32.6	11.11	33.64	246	112	P	V
		5940.2	50.54	-17.76	68.3	40.29	32.63	11.27	33.65	246	112	P	V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

Band 4 5725~5850MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 149 5745MHz		11490	58.36	-15.64	74	68.6	39.91	15.59	65.74	172	0	P	H
		11490	45.6	-8.4	54	55.84	39.91	15.59	65.74	172	0	A	H
		17235	50.91	-17.39	68.3	55.39	41	18.6	64.08	100	0	P	H
													H
		11490	55.16	-18.84	74	65.4	39.91	15.59	65.74	319	0	P	V
		11490	42.66	-11.34	54	52.9	39.91	15.59	65.74	319	0	A	V
		17235	52.5	-15.8	68.3	56.98	41	18.6	64.08	100	0	P	V
													V
802.11a CH 157 5785MHz		11570	55.56	-18.44	74	65.82	39.76	15.64	65.66	150	0	P	H
		11570	45.06	-8.94	54	55.32	39.76	15.64	65.66	150	0	A	H
		17355	52.04	-16.26	68.3	56.26	41.35	18.65	64.22	100	0	P	H
													H
		11570	52.87	-21.13	74	63.13	39.76	15.64	65.66	321	0	P	V
		11570	43.2	-10.8	54	53.46	39.76	15.64	65.66	321	0	A	V
		17355	50.17	-18.13	68.3	54.39	41.35	18.65	64.22	100	0	P	V
													V
802.11a CH 165 5825MHz		11650	52.91	-21.09	74	63.22	39.62	15.69	65.62	144	21	P	H
		11650	42.6	-11.4	54	52.91	39.62	15.69	65.62	144	21	A	H
		17475	50.13	-18.17	68.3	54.09	41.7	18.7	64.36	100	0	P	H
													H
		11650	53.66	-20.34	74	63.97	39.62	15.69	65.62	220	301	P	V
		11650	41.18	-12.82	54	51.49	39.62	15.69	65.62	220	301	A	V
		17475	49.83	-18.47	68.3	53.79	41.7	18.7	64.36	100	0	P	V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 149 5745MHz		5639	50.87	-17.43	68.3	41.53	32.19	10.69	33.54	199	106	P	H
		5651.2	49.59	-19.6	69.19	40.22	32.22	10.69	33.54	199	106	P	H
		5719.8	74.81	-36.03	110.84	65.42	32.31	10.65	33.57	199	106	P	H
		5724.6	79.84	-41.55	121.39	70.45	32.31	10.65	33.57	199	106	P	H
		5745	112.5	-9.8	122.3	103.1	32.34	10.63	33.57	199	106	P	H
		5745	102.2	------	------	92.8	32.34	10.63	33.57	199	106	A	H
													H
													H
		5645.6	53.79	-14.51	68.3	44.45	32.19	10.69	33.54	300	113	P	V
		5654.8	53.81	-18.06	71.87	44.45	32.22	10.69	33.55	300	113	P	V
		5719.6	80.39	-30.4	110.79	71	32.31	10.65	33.57	300	113	P	V
		5724.2	82.05	-38.43	120.48	72.66	32.31	10.65	33.57	300	113	P	V
		5745	115.3	-7	122.3	105.9	32.34	10.63	33.57	300	113	P	V
		5745	105.25	------	------	95.85	32.34	10.63	33.57	300	113	A	V
													V
													V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5612	50.97	-17.33	68.3	41.65	32.14	10.71	33.53	199	109	P	H
		5653.2	48.57	-22.11	70.68	39.2	32.22	10.69	33.54	199	109	P	H
		5717.2	52.82	-57.3	110.12	43.45	32.29	10.65	33.57	199	109	P	H
		5723.8	55.92	-63.64	119.56	46.53	32.31	10.65	33.57	199	109	P	H
		5785	112.91	-9.39	122.3	103.5	32.39	10.61	33.59	199	109	P	H
		5785	102.51	------	------	93.1	32.39	10.61	33.59	199	109	A	H
		5851.4	54.2	-64.91	119.11	44.55	32.48	10.78	33.61	199	109	P	H
		5872	52.69	-53.45	106.14	42.84	32.53	10.94	33.62	199	109	P	H
		5924	49.14	-19.9	69.04	39.07	32.6	11.11	33.64	199	109	P	H
		5944.2	50.85	-17.45	68.3	40.6	32.63	11.27	33.65	199	109	P	H
802.11n													H
HT20													H
CH 157		5626.6	52.87	-15.43	68.3	43.54	32.17	10.69	33.53	294	113	P	V
5785MHz		5654.2	53.88	-17.54	71.42	44.52	32.22	10.69	33.55	294	113	P	V
		5714.6	58.7	-50.69	109.39	49.33	32.29	10.65	33.57	294	113	P	V
		5724	57.85	-62.17	120.02	48.46	32.31	10.65	33.57	294	113	P	V
		5785	114.81	-7.49	122.3	105.4	32.39	10.61	33.59	294	113	P	V
		5785	104.38	------	------	94.97	32.39	10.61	33.59	294	113	A	V
		5850.6	54.81	-66.12	120.93	45.16	32.48	10.78	33.61	294	113	P	V
		5856.6	55.32	-55.13	110.45	45.64	32.51	10.78	33.61	294	113	P	V
		5924.8	48.79	-19.66	68.45	38.72	32.6	11.11	33.64	294	113	P	V
		5940.4	49.22	-19.08	68.3	38.97	32.63	11.27	33.65	294	113	P	V
													V
													V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5825	113.1	-9.2	122.3	103.46	32.46	10.78	33.6	199	114	P	H
		5825	102.86	------	------	93.22	32.46	10.78	33.6	199	114	A	H
		5852.8	73.72	-42.2	115.92	64.07	32.48	10.78	33.61	199	114	P	H
		5855	71.51	-39.39	110.9	61.83	32.51	10.78	33.61	199	114	P	H
		5921.8	50.46	-20.2	70.66	40.39	32.6	11.11	33.64	199	114	P	H
		5946.4	50.8	-17.5	68.3	40.55	32.63	11.27	33.65	199	114	P	H
802.11n													H
HT20													H
CH 165		5825	115.2	-7.1	122.3	105.56	32.46	10.78	33.6	246	112	P	V
5825MHz		5825	104.8	------	------	95.16	32.46	10.78	33.6	246	112	A	V
		5850	76.48	-45.82	122.3	66.83	32.48	10.78	33.61	246	112	P	V
		5855.6	72.82	-37.91	110.73	63.14	32.51	10.78	33.61	246	112	P	V
		5924.8	50.52	-17.93	68.45	40.45	32.6	11.11	33.64	246	112	P	V
		5939.8	50.96	-17.34	68.3	40.87	32.63	11.11	33.65	246	112	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 149 5745MHz		11490	57.73	-16.27	74	67.97	39.91	15.59	65.74	161	3	P	H
		11490	48.49	-5.51	54	58.73	39.91	15.59	65.74	161	3	A	H
		17235	50.18	-18.12	68.3	54.66	41	18.6	64.08	100	0	P	H
													H
		11490	52.69	-21.31	74	62.93	39.91	15.59	65.74	330	0	P	V
		11490	44.6	-9.4	54	54.84	39.91	15.59	65.74	330	0	A	V
		17235	54.23	-14.07	68.3	58.71	41	18.6	64.08	100	0	P	V
													V
802.11n HT20 CH 157 5785MHz		11570	53.36	-20.64	74	63.62	39.76	15.64	65.66	160	2	P	H
		11570	44.03	-9.97	54	54.29	39.76	15.64	65.66	160	2	A	H
		17355	49.22	-19.08	68.3	53.44	41.35	18.65	64.22	100	0	P	H
													H
		11570	49.96	-24.04	74	60.22	39.76	15.64	65.66	333	0	P	V
		11570	41.06	-12.94	54	51.32	39.76	15.64	65.66	333	0	A	V
		17355	50.15	-18.15	68.3	54.37	41.35	18.65	64.22	100	0	P	V
													V
802.11n HT20 CH 165 5825MHz		11650	52.91	-21.09	74	63.22	39.62	15.69	65.62	161	21	P	H
		11650	43.41	-10.59	54	53.72	39.62	15.69	65.62	161	21	A	H
		17475	51.27	-17.03	68.3	55.23	41.7	18.7	64.36	100	0	P	H
													H
		11650	50.11	-23.89	74	60.42	39.62	15.69	65.62	235	3	P	V
		11650	41.21	-12.79	54	51.52	39.62	15.69	65.62	235	3	A	V
		17475	48.68	-19.62	68.3	52.64	41.7	18.7	64.36	100	0	P	V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5646.6	54.18	-14.12	68.3	44.84	32.19	10.69	33.54	201	109	P	H
		5651.4	54.1	-15.24	69.34	44.73	32.22	10.69	33.54	201	109	P	H
		5719.8	80.92	-29.92	110.84	71.53	32.31	10.65	33.57	201	109	P	H
		5724.8	80.66	-41.18	121.84	71.27	32.31	10.65	33.57	201	109	P	H
		5755	109.84	-12.46	122.3	100.42	32.36	10.63	33.57	201	109	P	H
		5755	100.02	------	------	90.6	32.36	10.63	33.57	201	109	A	H
		5852.2	56.51	-60.77	117.28	46.86	32.48	10.78	33.61	201	109	P	H
		5857.2	56.1	-54.18	110.28	46.42	32.51	10.78	33.61	201	109	P	H
		5922	52.24	-18.27	70.51	42.17	32.6	11.11	33.64	201	109	P	H
		5931.8	50.31	-17.99	68.3	40.24	32.6	11.11	33.64	201	109	P	H
802.11n													H
HT40													H
CH 151		5640.4	59.98	-8.32	68.3	50.64	32.19	10.69	33.54	300	111	P	V
5755MHz		5653	60.26	-10.27	70.53	50.89	32.22	10.69	33.54	300	111	P	V
		5719.4	85.18	-25.55	110.73	75.79	32.31	10.65	33.57	300	111	P	V
		5721.8	83.94	-31.06	115	74.55	32.31	10.65	33.57	300	111	P	V
		5755	112.47	-9.83	122.3	103.05	32.36	10.63	33.57	300	111	P	V
		5755	102.38	------	------	92.96	32.36	10.63	33.57	300	111	A	V
		5853.2	59.15	-55.85	115	49.5	32.48	10.78	33.61	300	111	P	V
		5855.2	58.36	-52.48	110.84	48.68	32.51	10.78	33.61	300	111	P	V
		5918.4	51.17	-22	73.17	41.12	32.58	11.11	33.64	300	111	P	V
		5945.2	50.45	-17.85	68.3	40.2	32.63	11.27	33.65	300	111	P	V
													V
													V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5645.6	51.36	-16.94	68.3	42.02	32.19	10.69	33.54	193	105	P	H
		5654	51.33	-19.94	71.27	41.97	32.22	10.69	33.55	193	105	P	H
		5717.6	65.79	-44.44	110.23	56.4	32.31	10.65	33.57	193	105	P	H
		5722.2	65.62	-50.3	115.92	56.23	32.31	10.65	33.57	193	105	P	H
		5795	110.23	-12.07	122.3	100.8	32.41	10.61	33.59	193	105	P	H
		5795	100.26	------	------	90.83	32.41	10.61	33.59	193	105	A	H
		5854.4	67.99	-44.28	112.27	58.31	32.51	10.78	33.61	193	105	P	H
		5856.6	67.76	-42.69	110.45	58.08	32.51	10.78	33.61	193	105	P	H
		5922	54.04	-16.47	70.51	43.97	32.6	11.11	33.64	193	105	P	H
		5926.4	51.88	-16.42	68.3	41.81	32.6	11.11	33.64	193	105	P	H
802.11n													H
HT40													H
CH 159		5647.4	56.16	-12.14	68.3	46.82	32.19	10.69	33.54	297	112	P	V
5795MHz		5651.2	55.14	-14.05	69.19	45.77	32.22	10.69	33.54	297	112	P	V
		5714.8	67.25	-42.2	109.45	57.88	32.29	10.65	33.57	297	112	P	V
		5725	68.71	-53.59	122.3	59.32	32.31	10.65	33.57	297	112	P	V
		5795	113.13	-9.17	122.3	103.7	32.41	10.61	33.59	297	112	P	V
		5795	102.73	------	------	93.3	32.41	10.61	33.59	297	112	A	V
		5852.2	69.16	-48.12	117.28	59.51	32.48	10.78	33.61	297	112	P	V
		5855.4	69.7	-41.09	110.79	60.02	32.51	10.78	33.61	297	112	P	V
		5924.8	52.83	-15.62	68.45	42.76	32.6	11.11	33.64	297	112	P	V
		5929.2	52.44	-15.86	68.3	42.37	32.6	11.11	33.64	297	112	P	V
													V
													V

Remark

3. No other spurious found.
4. All results are PASS against Peak and Average limit line.

Band 4 5725~5850MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 151 5755MHz		11510	54.06	-19.94	74	64.25	39.9	15.61	65.7	170	2	P	H
		11510	44.14	-9.86	54	54.33	39.9	15.61	65.7	170	2	A	H
		17265	48.94	-19.36	68.3	53.34	41.1	18.62	64.12	100	0	P	H
													H
		11510	53.03	-20.97	74	63.22	39.9	15.61	65.7	325	2	P	V
		11510	41.22	-12.78	54	51.41	39.9	15.61	65.7	325	2	A	V
		17265	50.24	-18.06	68.3	54.64	41.1	18.62	64.12	100	0	P	V
													V
802.11n HT40 CH 159 5795MHz		11590	51.96	-22.04	74	62.22	39.73	15.66	65.65	174	21	P	H
		11590	41.91	-12.09	54	52.17	39.73	15.66	65.65	174	21	A	H
		17385	47.64	-20.66	68.3	51.79	41.45	18.66	64.26	100	0	P	H
													H
		11590	47.66	-26.34	74	57.92	39.73	15.66	65.65	334	0	P	V
		11590	39.46	-14.54	54	49.72	39.73	15.66	65.65	334	0	A	V
		17385	48.57	-19.73	68.3	52.72	41.45	18.66	64.26	100	0	P	V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5649.8	65.43	-2.87	68.3	56.06	32.22	10.69	33.54	192	103	P	H
		5652.2	65.33	-4.61	69.94	55.96	32.22	10.69	33.54	192	103	P	H
		5705.2	76.16	-30.6	106.76	66.79	32.29	10.65	33.57	192	103	P	H
		5722.6	74.34	-42.49	116.83	64.95	32.31	10.65	33.57	192	103	P	H
		5775	105.93	-16.37	122.3	96.49	32.39	10.63	33.58	192	103	P	H
		5775	96.58	------	------	87.14	32.39	10.63	33.58	192	103	A	H
		5852.4	69.48	-47.35	116.83	59.83	32.48	10.78	33.61	192	103	P	H
		5859	71.88	-37.9	109.78	62.21	32.51	10.78	33.62	192	103	P	H
		5924.2	56.19	-12.7	68.89	46.12	32.6	11.11	33.64	192	103	P	H
		5929.8	58.23	-10.07	68.3	48.16	32.6	11.11	33.64	192	103	P	H
802.11ac													H
VHT80													H
CH 155		5639.8	67.06	-1.24	68.3	57.72	32.19	10.69	33.54	301	115	P	V
5775MHz		5652.2	68.76	-1.18	69.94	59.39	32.22	10.69	33.54	301	115	P	V
		5719.6	78.1	-32.69	110.79	68.71	32.31	10.65	33.57	301	115	P	V
		5722.4	78.4	-37.97	116.37	69.01	32.31	10.65	33.57	301	115	P	V
		5775	108.8	-13.5	122.3	99.36	32.39	10.63	33.58	301	115	P	V
		5775	99.19	------	------	89.75	32.39	10.63	33.58	301	115	A	V
		5851.6	74.82	-43.83	118.65	65.17	32.48	10.78	33.61	301	115	P	V
		5859.8	74.03	-35.52	109.55	64.36	32.51	10.78	33.62	301	115	P	V
		5924.2	57.47	-11.42	68.89	47.4	32.6	11.11	33.64	301	115	P	V
		5927.6	57.53	-10.77	68.3	47.46	32.6	11.11	33.64	301	115	P	V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 155 5775MHz		11550	45.69	-28.31	74	55.92	39.8	15.64	65.67	100	0	P	H
		17325	43.77	-24.53	68.3	48.07	41.25	18.63	64.18	100	0	P	H
													H
													H
		11550	43.32	-30.68	74	53.55	39.8	15.64	65.67	100	0	P	V
		17325	47.43	-20.87	68.3	51.73	41.25	18.63	64.18	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

5GHz WIFI 802.11ac VHT80 (LF @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
5GHz 802.11ac VHT80 LF		31.35	24.58	-15.42	40	30.3	25.18	0.93	31.83	100	288	P	H
		130.71	24.16	-19.34	43.5	36.47	17.99	1.48	31.78			P	H
		264.09	22.44	-23.56	46	32.54	19.54	2.13	31.77			P	H
		526.8	27.55	-18.45	46	32.06	24.47	2.95	31.93			P	H
		752.9	30.51	-15.49	46	31.14	27.73	3.62	31.98			P	H
		974.8	34.3	-19.7	54	30.7	30.55	3.89	30.84			P	H
													H
													H
													H
													H
													H
													H
		31.62	33.29	-6.71	40	39.53	24.66	0.93	31.83	100	86	P	V
		116.4	25.81	-17.69	43.5	38.59	17.52	1.48	31.78			P	V
		258.42	23.82	-22.18	46	34.11	19.5	1.98	31.77			P	V
		422.5	26.29	-19.71	46	31.61	22.82	3.68	31.82			P	V
		722.8	29.83	-16.17	46	31.15	27.15	3.54	32.01			P	V
		963.6	34.67	-19.33	54	31.13	30.57	3.89	30.92			P	V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Note symbol

*	**Fundamental Frequency** which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is **over limit** line.
P/A	**P**eak or **A**verage
H/V	**H**orizontal or **V**ertical

A calculation example for radiated spurious emission is shown as below:

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Level(dBμV/m) =

Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

2. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

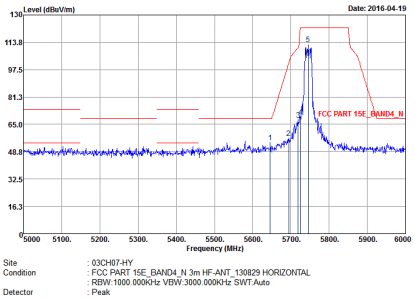
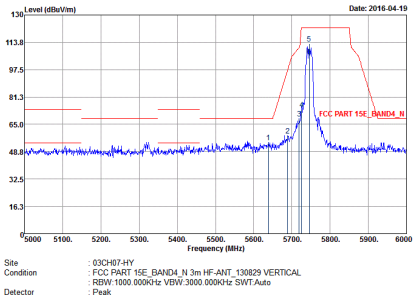
Both peak and average measured complies with the limit line, so test result is "PASS".

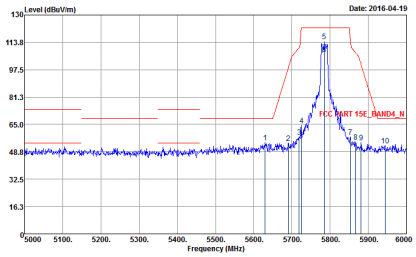
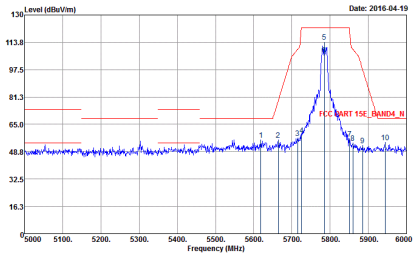
Appendix C. Radiated Spurious Emission Plots

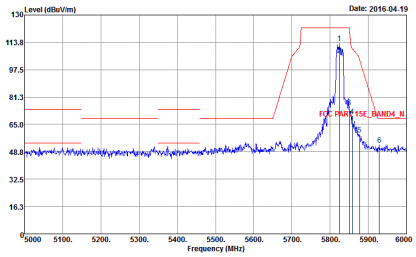
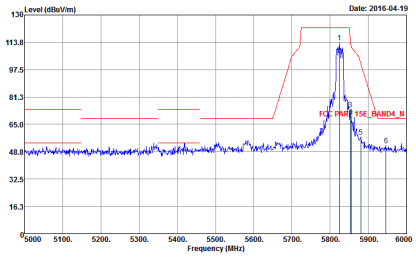
Test Engineer :	Luke Chang, Jesse Wang, and James Chiu	Temperature :	21~24°C
		Relative Humidity :	50~54%

Band 4 - 5725~5850MHz

WIFI 802.11a (Fundamental and Band Edge @ 3m)

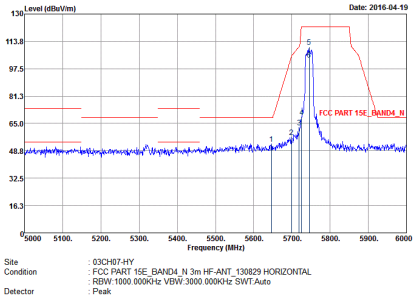
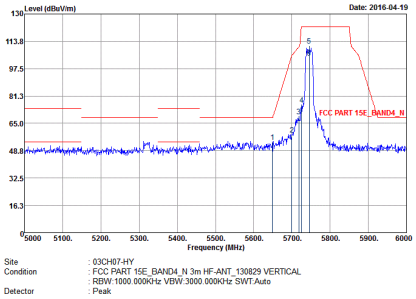
WIFI	Band 4 5725~5850MHz Fundamental and Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
1+2	Horizontal	Vertical
Peak		

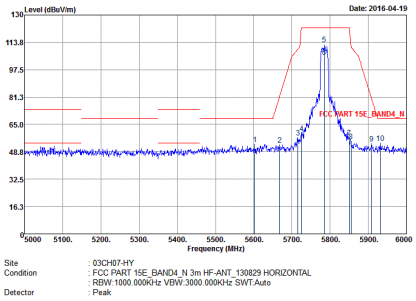
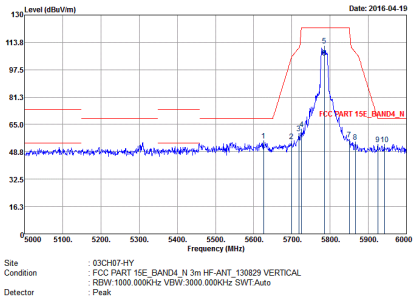
WIFI	Band 4 5725~5850MHz Fundamental and Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
1+2	Horizontal	Vertical
Peak		

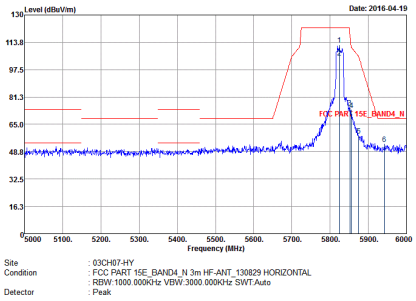
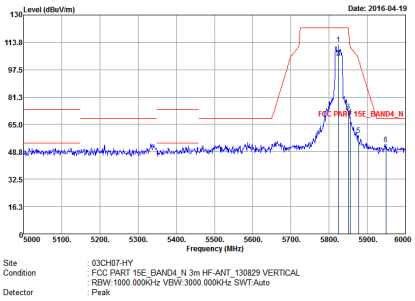
WIFI	Band 4 5725~5850MHz Fundamental and Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
1+2	Horizontal	Vertical
Peak		

Band 4 5725~5850MHz

WIFI 802.11n HT20 (Fundamental and Band Edge @ 3m)

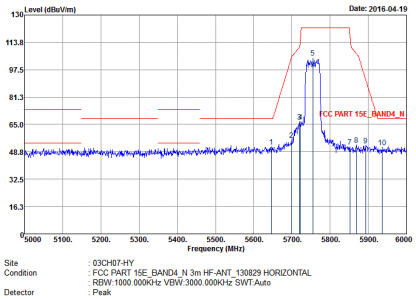
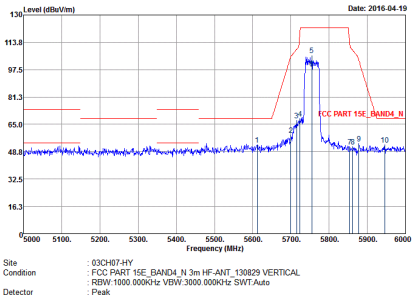
WIFI	Band 4 5725~5850MHz Fundamental and Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1+2	Horizontal	Vertical
Peak		

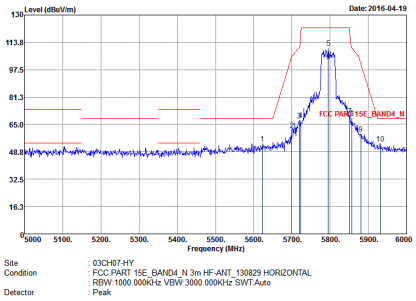
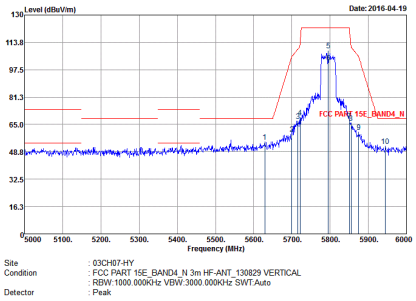
WIFI	Band 4 5725~5850MHz Fundamental and Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1+2	Horizontal	Vertical
Peak		

WIFI	Band 4 5725~5850MHz Fundamental and Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1+2	Horizontal	Vertical
Peak		

Band 4 5725~5850MHz

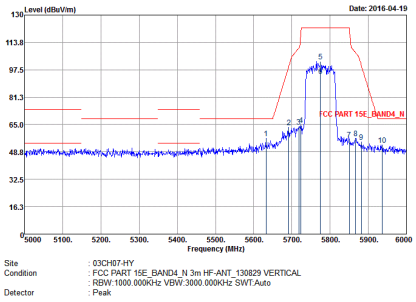
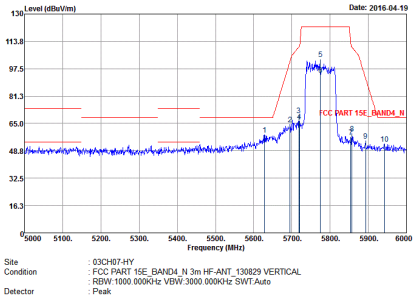
WIFI 802.11n HT40 (Fundamental and Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Fundamental and Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1+2	Horizontal	Vertical
Peak		

WIFI	Band 4 5725~5850MHz Fundamental and Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1+2	Horizontal	Vertical
Peak		

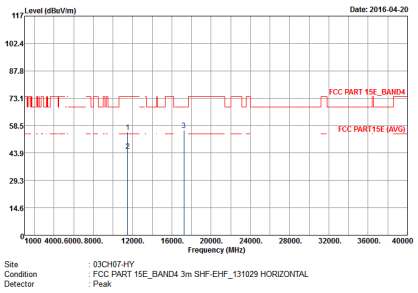
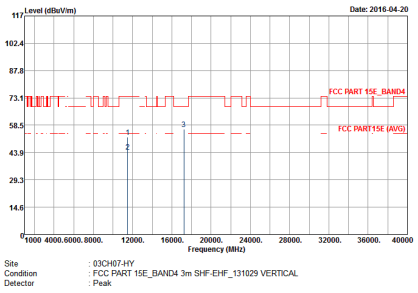
Band 4 5725~5850MHz

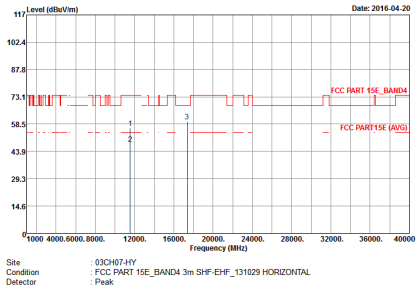
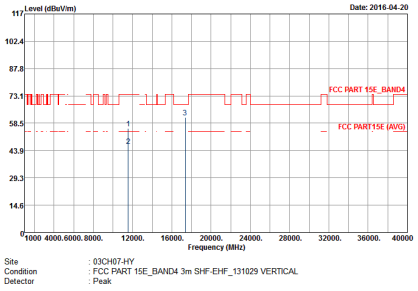
WIFI 802.11ac VHT80 (Fundamental and Band Edge @ 3m)

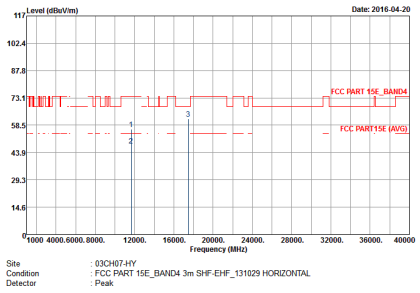
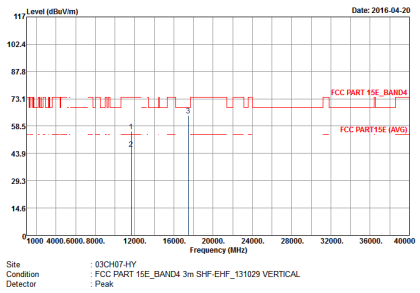
WIFI	Band 4 5725~5850MHz Fundamental and Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1+2	Horizontal	Vertical
Peak		

Band 4 - 5725~5850MHz

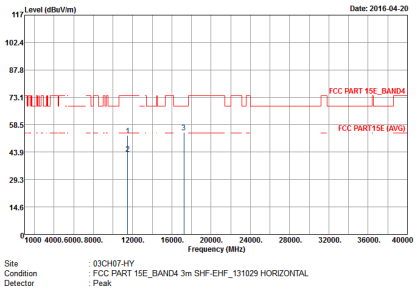
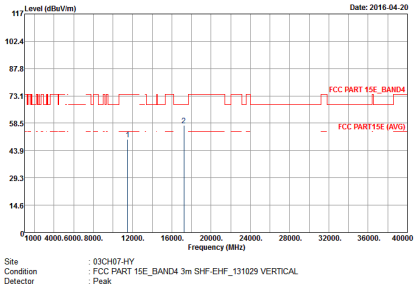
WIFI 802.11a (Harmonic @ 3m)

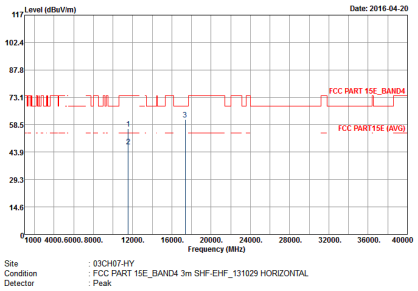
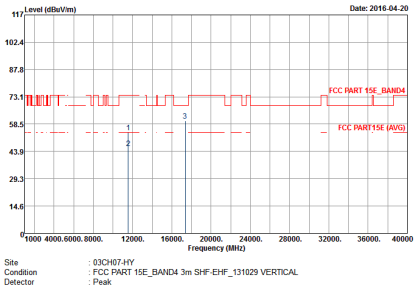
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH149 5745MHz	
1+2	Horizontal	Vertical
Peak Avg.		

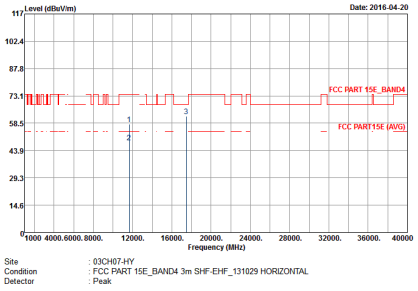
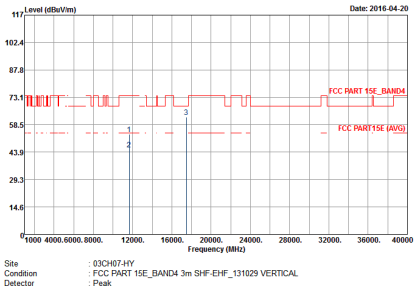
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH157 5785MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH165 5825MHz	
1+2	Horizontal	Vertical
Peak Avg.		

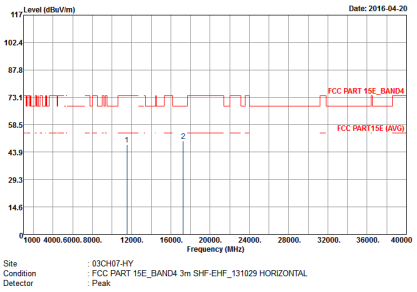
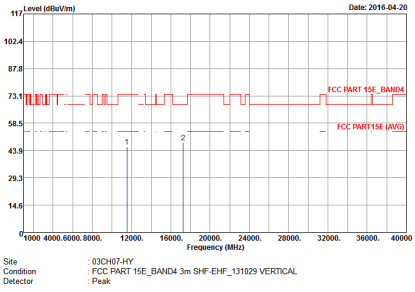
Band 4 5725~5850MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

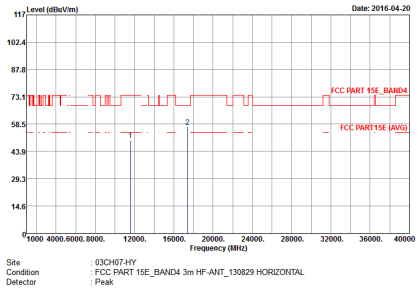
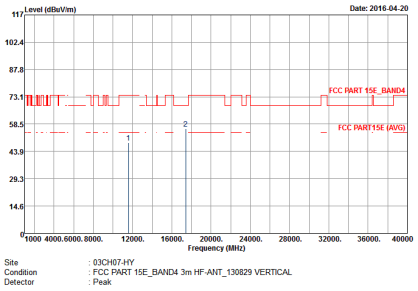
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1+2	Horizontal	Vertical
Peak Avg.		

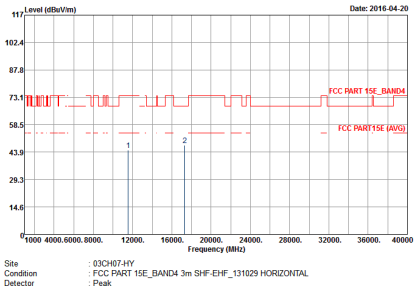
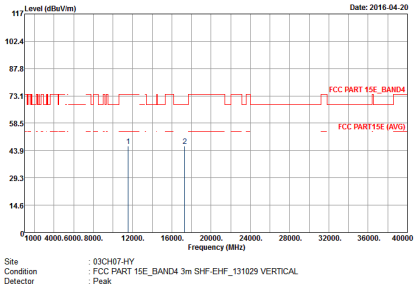
Band 4 5725~5850MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1+2	Horizontal	Vertical
Peak Avg.		

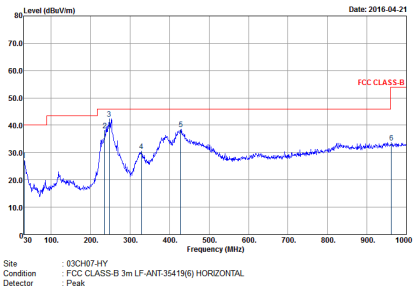
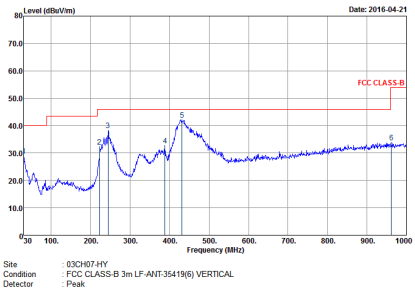
Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1+2	Horizontal	Vertical
Peak Avg.		

Emission below 1GHz

5GHz WIFI 802.11ac VHT80 (LF)

WIFI	5GHz 5725~5850MHz	
ANT	802.11ac VHT80 LF	
1+2	Horizontal	Vertical
QP / Peak		

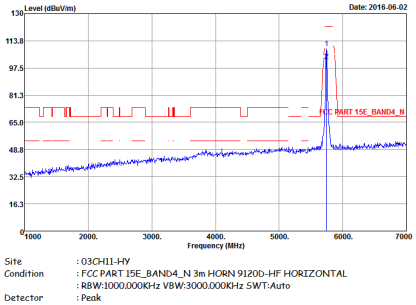
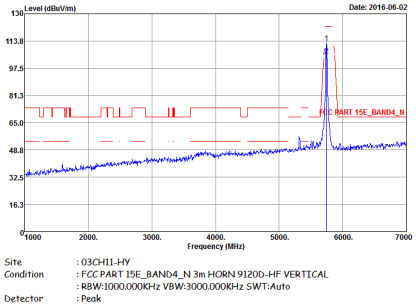
Test Engineer :	JC Liang, Jacky Hung , Bill Chang, and Ken Wu	**Temperature :**	20~24°C
		Relative Humidity :	50~52%

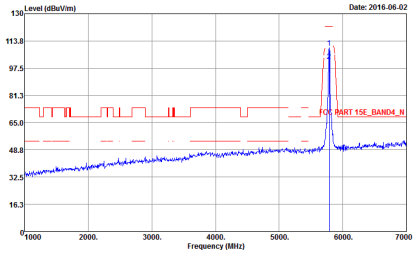
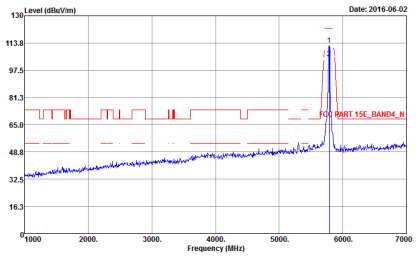
Note symbol

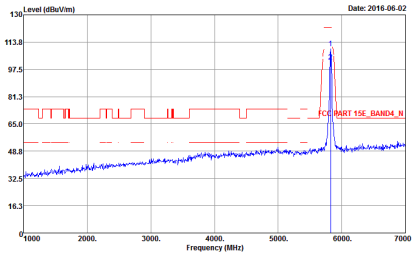
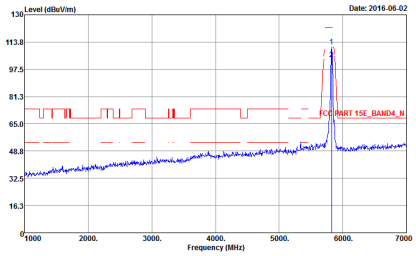
-L	**Low channel location**
-R	**High channel location**

Band 4 - 5725~5850MHz

WIFI 802.11a (Fundamental and Band Edge @ 3m)

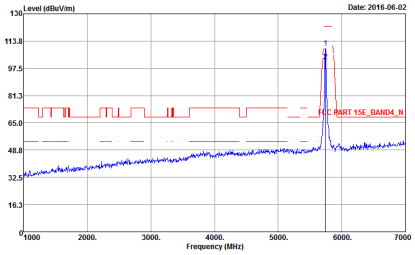
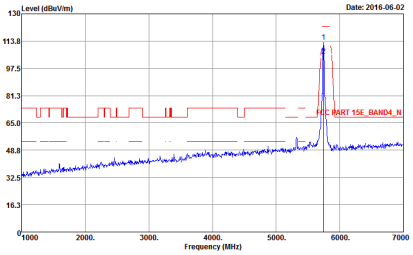
WIFI	Band 4 5725~5850MHz Fundamental and Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
1	Horizontal	Vertical
Peak		

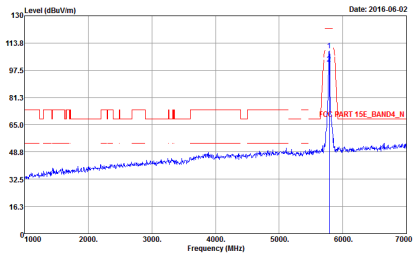
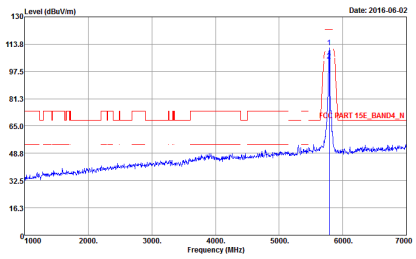
WIFI	Band 4 5725~5850MHz Fundamental and Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
1	Horizontal	Vertical
Peak	 Site : 03CH11-HY Condition : FCC PART 15E_BAND4_N 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : FCC PART 15E_BAND4_N 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak

WIFI	Band 4 5725~5850MHz Fundamental and Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
1	Horizontal	Vertical
Peak		

Band 4 5725~5850MHz

WIFI 802.11n HT20 (Fundamental and Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Fundamental and Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1	Horizontal	Vertical
Peak	 Site : 03CH11-HY Condition : FCC PART 15E_BAND4_N 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : FCC PART 15E_BAND4_N 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak

WIFI	Band 4 5725~5850MHz Fundamental and Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1	Horizontal	Vertical
Peak	 Site : 03CH11-HY Condition : FCC PART 15E_BAND4_N 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH11-HY Condition : FCC PART 15E_BAND4_N 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak