



# FCC RF Test Report

**APPLICANT** : Chilton Fern Limited Liability Company  
**EQUIPMENT** : Digital Media Receiver  
**MODEL NAME** : S04WQR  
**FCC ID** : 2ABDW-1229  
**STANDARD** : FCC Part 15 Subpart E §15.407  
**CLASSIFICATION** : (NII) Unlicensed National Information Infrastructure

The testing was completed on Sep. 09, 2015. 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



## **SPORTON INTERNATIONAL INC.**

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



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**APPENDIX A. CONDUCTED TEST RESULTS**

**APPENDIX B. RADIATED TEST RESULTS**

**APPENDIX C. RADIATED SPURIOUS EMISSION**





### SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	2.1049 15.403(i)	26dB & 99% Bandwidth	-	Pass	-
3.2	15.407(a)	Maximum Conducted Output Power	≤ 24 dBm (depend on band)	Pass	-
3.3	15.407(a)	Power Spectral Density	≤ 11 dBm (depend on band)	Pass	-
3.4	15.407(b)	Unwanted Emissions	≤ -17, -27 dBm (depend on band)&15.209(a)	Pass	Under limit 0.72 dB at 5150.000 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 6.40 dB at 0.574 MHz
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

**Chilton Fern Limited Liability Company**  
80 S.W 8th Street Miami, FL 33130

## 1.2 Feature of Equipment Under Test

Product Feature	
Equipment	Digital Media Receiver
Model Name	S04WQR
FCC ID	2ABDW-1229
EUT supports Radios application	WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 Bluetooth v3.0 EDR

**Remark:** The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

## 1.3 Product Specification of Equipment Under Test

Product Specification subjective to this standard													
Tx/Rx Channel Frequency Range	5180 MHz ~ 5240 MHz												
Maximum Output Power	<p><b>&lt;Ant. 1&gt;</b> 802.11a : 14.04 dBm / 0.0254 W</p> <p><b>SISO &lt;Ant. 1&gt;</b> 802.11n HT20 : 13.87 dBm / 0.0244 W 802.11n HT40 : 14.46 dBm / 0.0279 W</p> <p><b>MIMO&lt;Ant. 1 + 2&gt;</b> 802.11n HT20 : 15.58 dBm / 0.0361 W 802.11n HT40 : 15.48 dBm / 0.0353 W</p>												
99% Occupied Bandwidth	802.11a : 17.40 MHz 802.11n HT20 : 18.35 MHz 802.11n HT40 : 36.10 MHz												
Antenna Type	<b>Ant. 1 :</b> Fixed Internal Antenna with gain 4.10 dBi <b>Ant. 2 :</b> Fixed Internal Antenna with gain 5.50 dBi												
Type of Modulation	OFDM (BPSK / QPSK / 16QAM / 64QAM)												
Antenna Function Description	<table border="1"> <thead> <tr> <th></th> <th>Ant. 1</th> <th>Ant. 2</th> </tr> </thead> <tbody> <tr> <td>802.11 a</td> <td>V</td> <td>-</td> </tr> <tr> <td>802.11 n SISO</td> <td>V</td> <td>-</td> </tr> <tr> <td>802.11 n MIMO</td> <td>V</td> <td>V</td> </tr> </tbody> </table>		Ant. 1	Ant. 2	802.11 a	V	-	802.11 n SISO	V	-	802.11 n MIMO	V	V
	Ant. 1	Ant. 2											
802.11 a	V	-											
802.11 n SISO	V	-											
802.11 n 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.

<b>Test Site</b>	SPORTON INTERNATIONAL INC.		
<b>Test Site Location</b>	No. 52, Hwa Ya 1 <sup>st</sup> 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		
<b>Test Site No.</b>	<b>Sporton Site No.</b>		
	TH05-HY	CO05-HY	03CH07-HY

**Note:** The test site complies with ANSI C63.4 2009 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 v01
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ANSI C63.10-2009

**Remark:**

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. FCC permits the use of the 1.5 meter table as an alternative in C63.10-2013 through inquiry tracking number 961829.
3. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.



## 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). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane) were recorded in this report.

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)
5150-5250 MHz Band 1 (U-NII-1)	36	5180	44	5220
	<b>38</b>	<b>5190</b>	<b>46</b>	<b>5230</b>
	40	5200	48	5240

**Note:** The above Frequency and Channel in boldface were 802.11n HT40.



## 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.

### <Ant. 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)	14.04	13.97	13.95	13.99	14.00	14.03	13.95	14.01

### SISO <Ant. 1>

5GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Average Power (dBm)	13.87	13.75	13.83	13.84	13.82	13.81	13.82	13.80

5GHz 802.11n HT40 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Average Power (dBm)	14.46	14.38	14.44	13.55	13.54	13.59	13.56	13.51

### MIMO <Ant. 1+2>

5GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Average Power (dBm)	15.58	15.37	15.54	15.53	15.51	15.48	15.50	15.45

5GHz 802.11n HT40 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Average Power (dBm)	15.48	15.45	15.43	14.54	14.52	14.49	14.42	14.50

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

#### MIMO Antenna

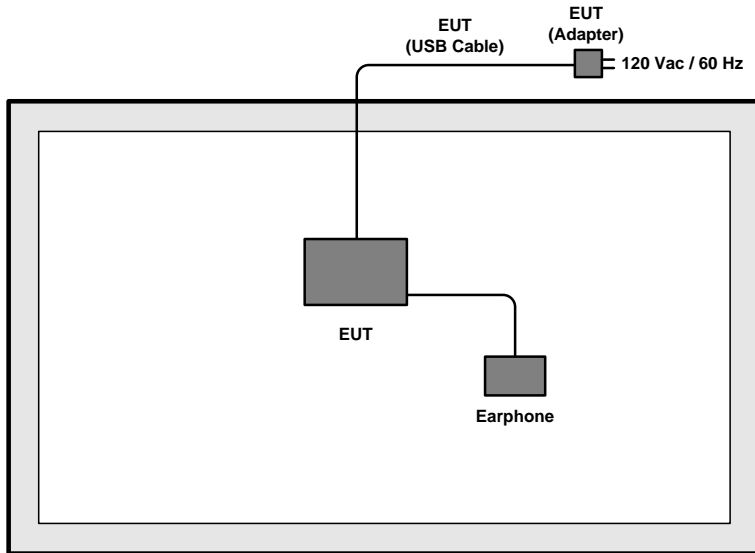
Modulation	Data Rate
802.11n HT20	MCS0
802.11n HT40	MCS0

AC Conducted Emission	Mode 1 : WLAN (5GHz) Link + Bluetooth Link
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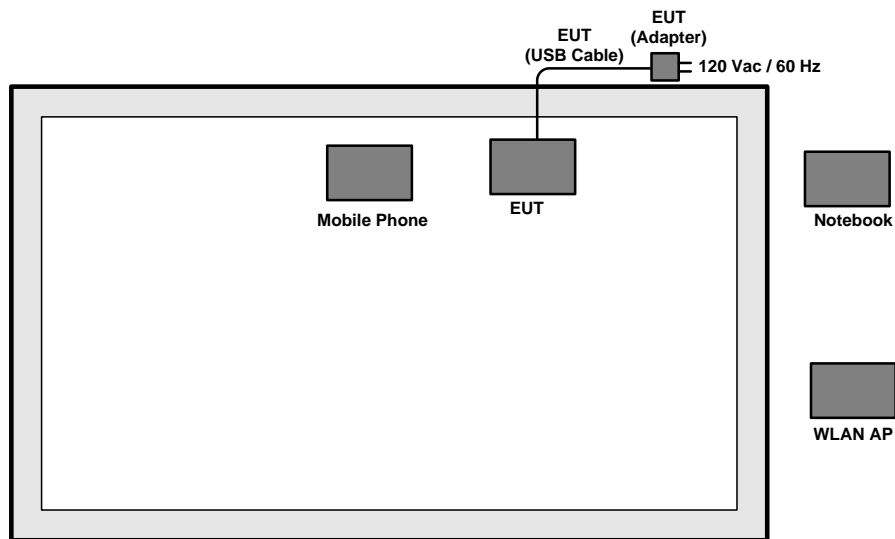
Ch. #		Band I : 5150-5250 MHz		
		802.11a	802.11n HT20	802.11n HT40
L	Low	36	36	38
M	Middle	44	44	-
H	High	48	48	46

## 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.	Mobile Phone	N/A	N/A	N/A	N/A	N/A
2.	WLAN AP	N/A	N/A	N/A	N/A	N/A
3.	Notebook	N/A	N/A	N/A	N/A	N/A
4.	Earphone	N/A	N/A	N/A	N/A	N/A

## 2.6 EUT Operation Test Setup

For WLAN function, programmed RF utility, 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.

$$\begin{aligned} \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\ &= 4.2 + 10 = 14.2 \text{ (dB)} \end{aligned}$$

### 3 Test Result

#### 3.1 26dB & 99% Bandwidth Measurement

##### 3.1.1 Description of 26dB & 99% Occupied Bandwidth

This section is for reporting purpose only.

There is no restriction limits for bandwidth.

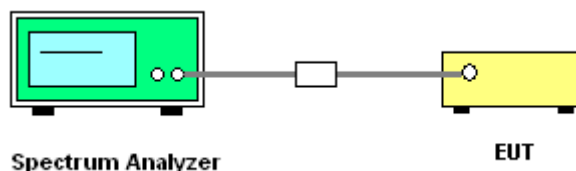
##### 3.1.2 Measuring Instruments

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 v01.  
Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB down from the peak of the emission.  
Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
7. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1MHz and set the Video bandwidth (VBW)  $\geq 3 * RBW$ .
8. Measure and record the results in the test report.

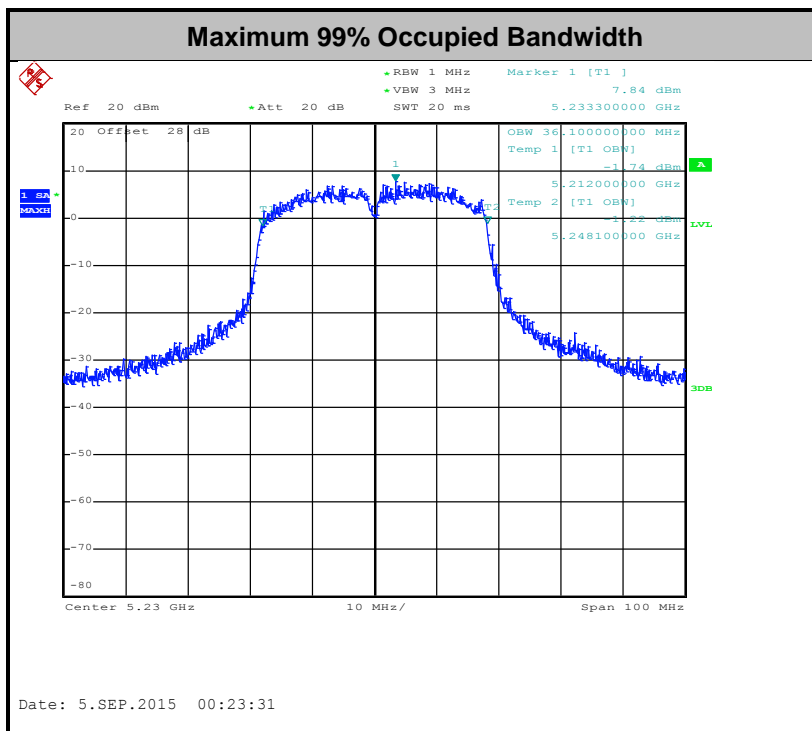
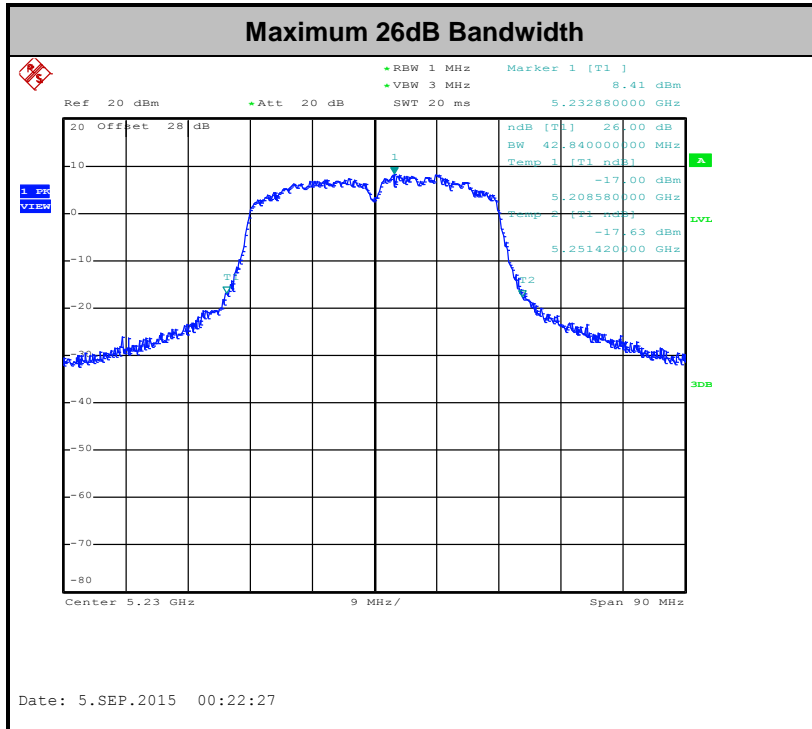
##### 3.1.4 Test Setup





### 3.1.5 Test Result of 26dB & 99% Occupied Bandwidth

Please refer to Appendix A.





## **3.2 Maximum Conducted Output Power Measurement**

### **3.2.1 Limit of Maximum Conducted Output Power**

<FCC 14-30 CFR 15.407>

For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW.

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.

Note that U-NII-2 band, devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

### **3.2.2 Measuring Instruments**

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

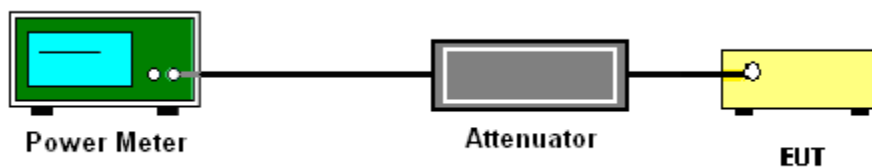
### 3.2.3 Test Procedures

The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01.

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**

<FCC 14-30 CFR 15.407>

For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum power spectral density shall not exceed 11dBm in any 1 megahertz 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 v01.  
Section F) Maximum power spectral density.

#### # Method SA-2 #

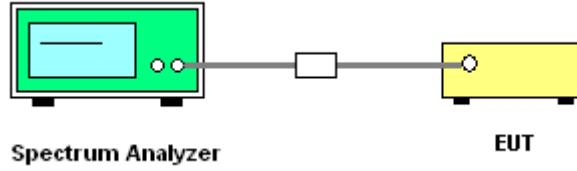
(trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

1. The testing follows Method SA-2 of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01.
  - Measure the duty cycle.
  - Set span to encompass the entire emission bandwidth (EBW) of the signal.
  - Set RBW = 1 MHz.
  - Set VBW  $\geq$  3 MHz.
  - Number of points in sweep  $\geq$  2 Span / RBW.
  - Sweep time = auto.
  - Detector = RMS
  - Trace average at least 100 traces in power averaging mode.
  - 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 (1): 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.

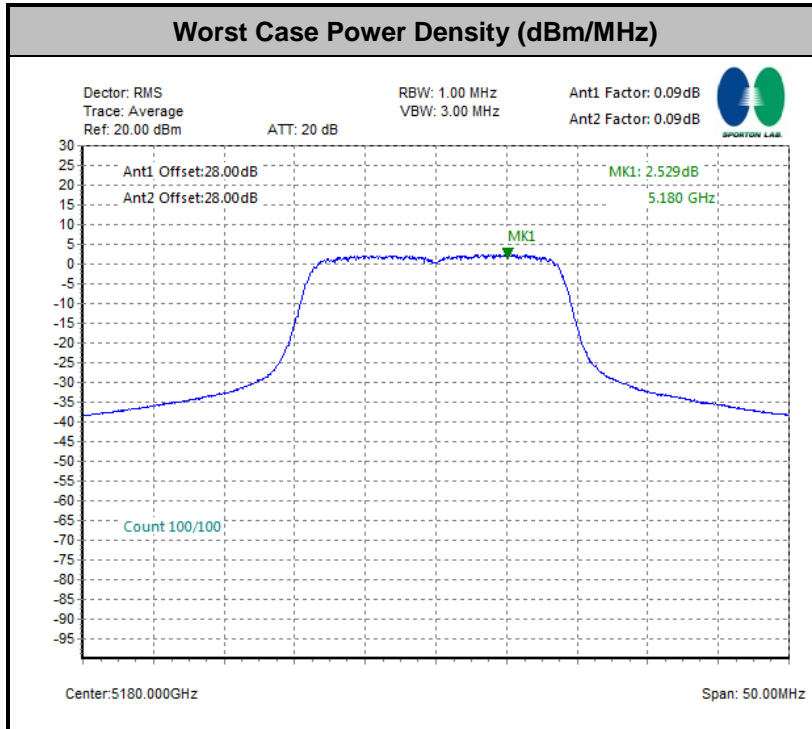
### 3.3.4 Test Setup





### 3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.





### 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 5150-5250 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27dBm/MHz.
- (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.

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

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

- (3) KDB789033 v01 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 v01. 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.

Table with 6 columns: Antenna, Band, Duty Cycle(%), T(us), 1/T(kHz), VBW Setting. Rows include configurations for Antenna 1 and 1+2 across various bands like 802.11a, 802.11n HT20, and 802.11n HT40.

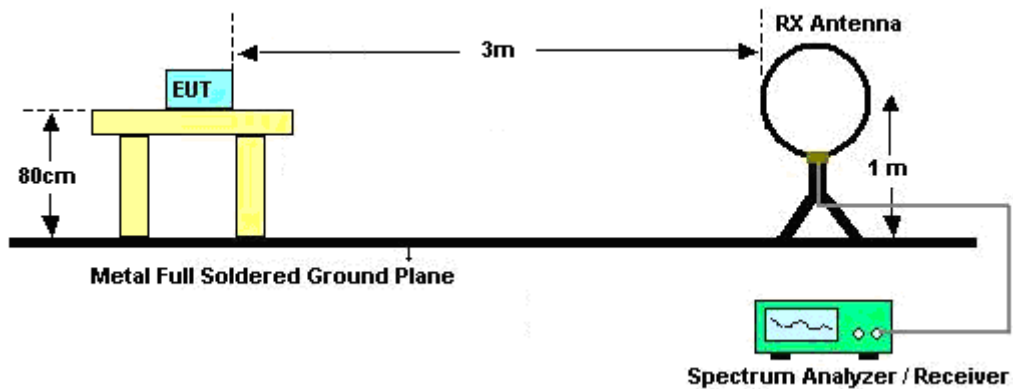
- 2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband 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.

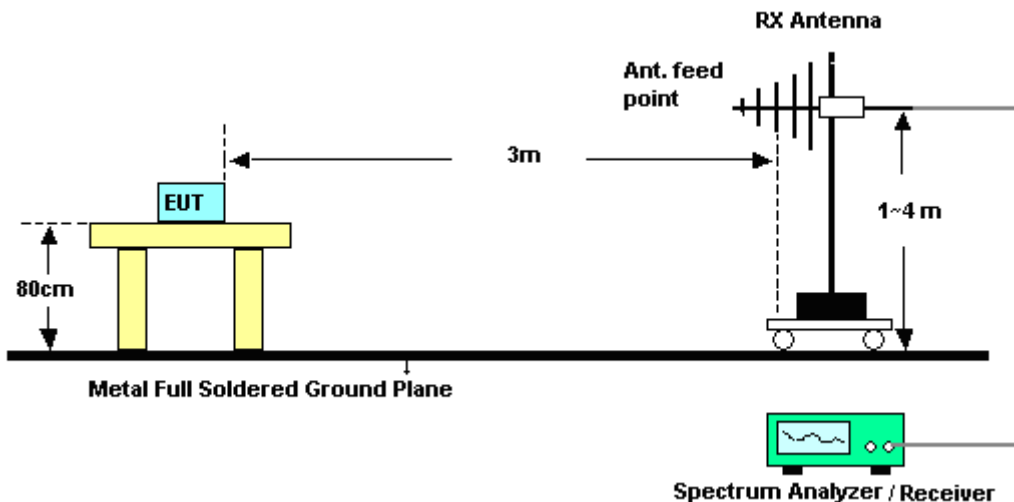
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level 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

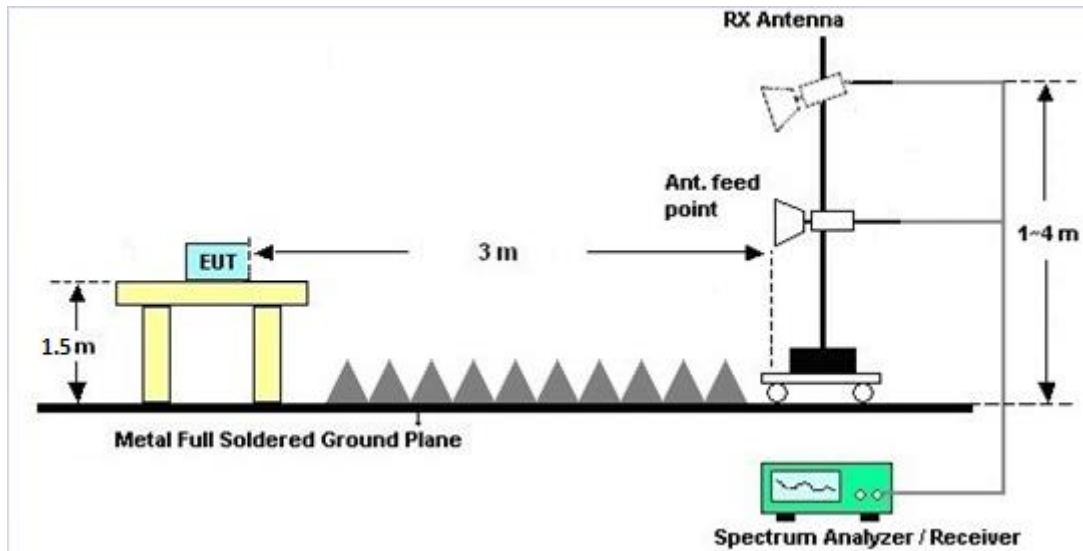
**For radiated emissions below 30MHz**



**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.

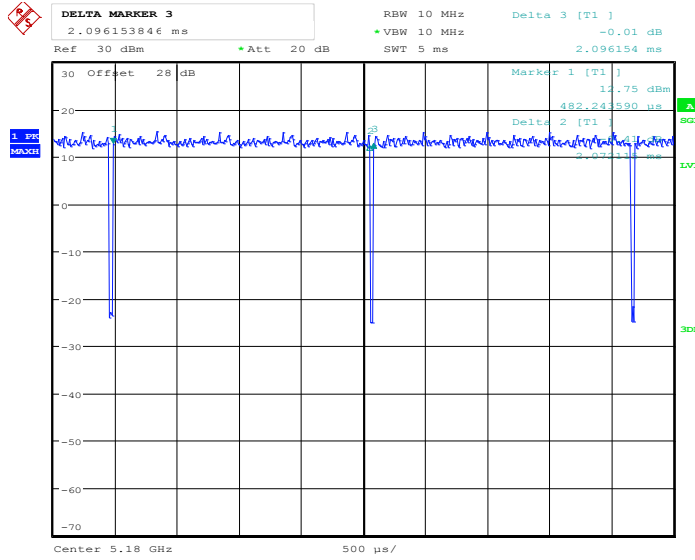
### 3.4.6 Test Result of Radiated Band Edges

Please refer to Appendix A.



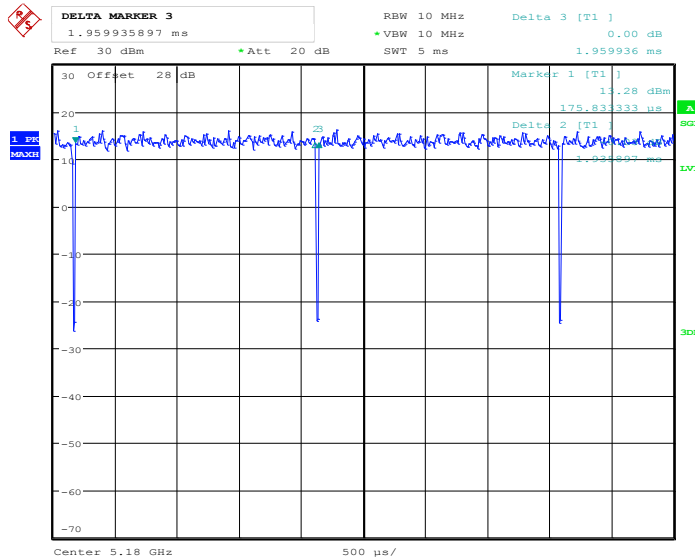
### 3.4.7 Duty Cycle

#### 802.11a Ant. 1



Date: 15.JUN.2015 21:22:14

#### 802.11n HT20 SISO Ant. 1

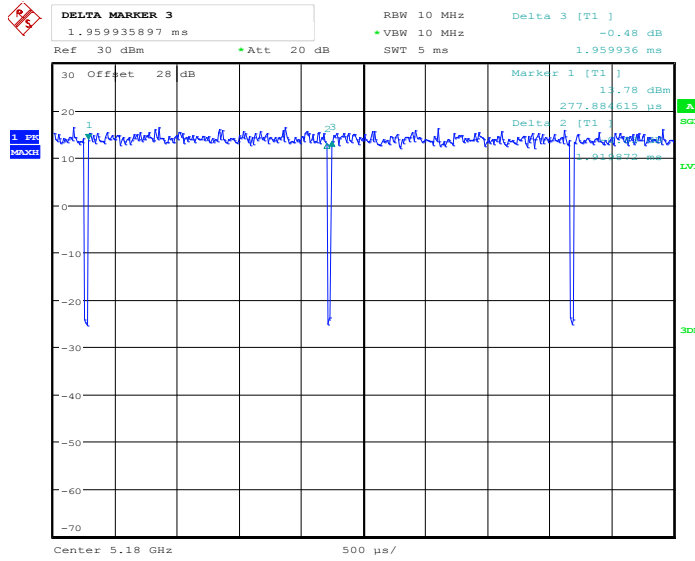


Date: 15.JUN.2015 21:23:58



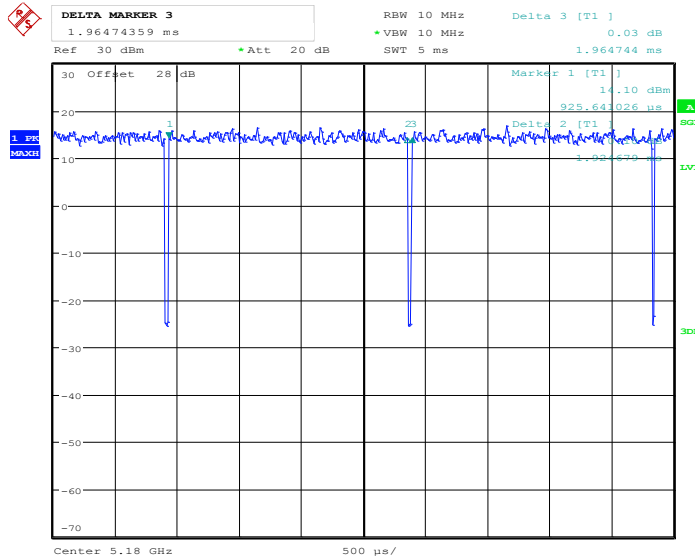


802.11n HT20 MIMO Ant. 1+2(1)



Date: 15.JUN.2015 21:25:32

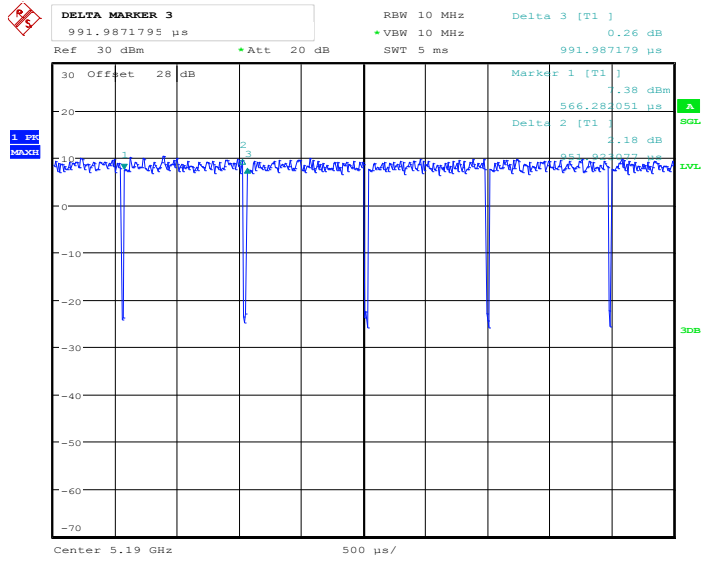
802.11n HT20 MIMO Ant. 1+2(2)



Date: 15.JUN.2015 21:26:14

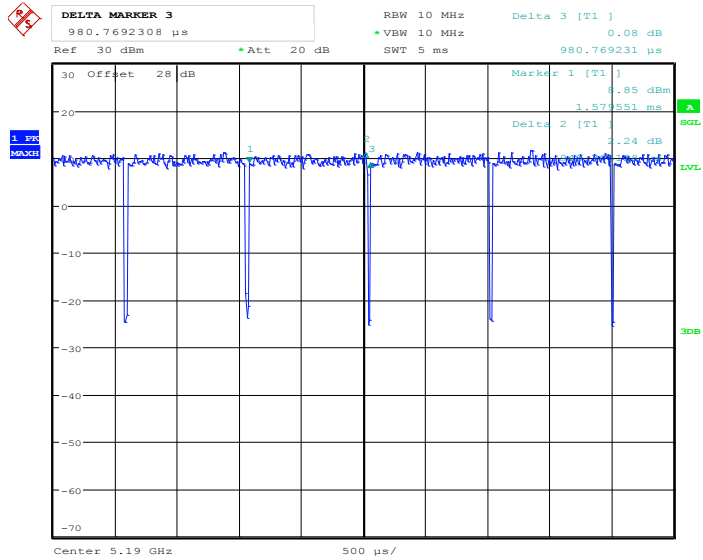


802.11n HT40 SISO Ant. 1



Date: 15.JUN.2015 21:28:10

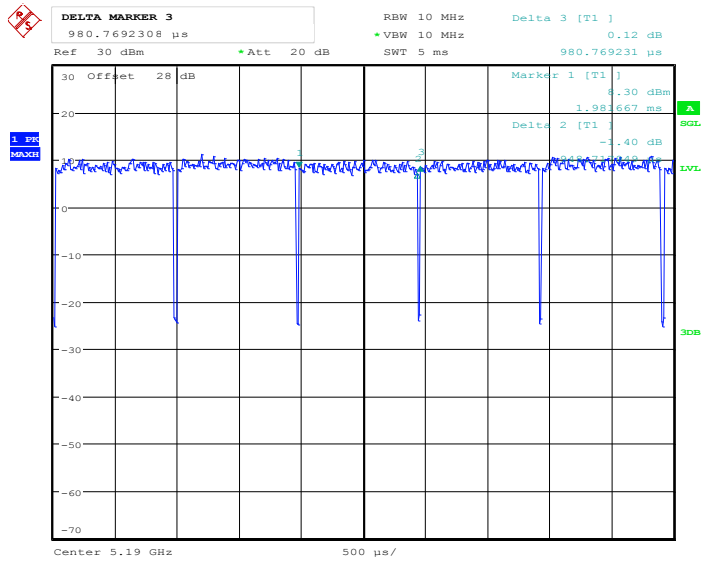
802.11n HT40 MIMO Ant. 1+2(1)



Date: 15.JUN.2015 21:29:50



802.11n HT40 MIMO Ant. 1+2(2)



Date: 15.JUN.2015 21:30:28

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

Please refer to Appendix A.



### 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.

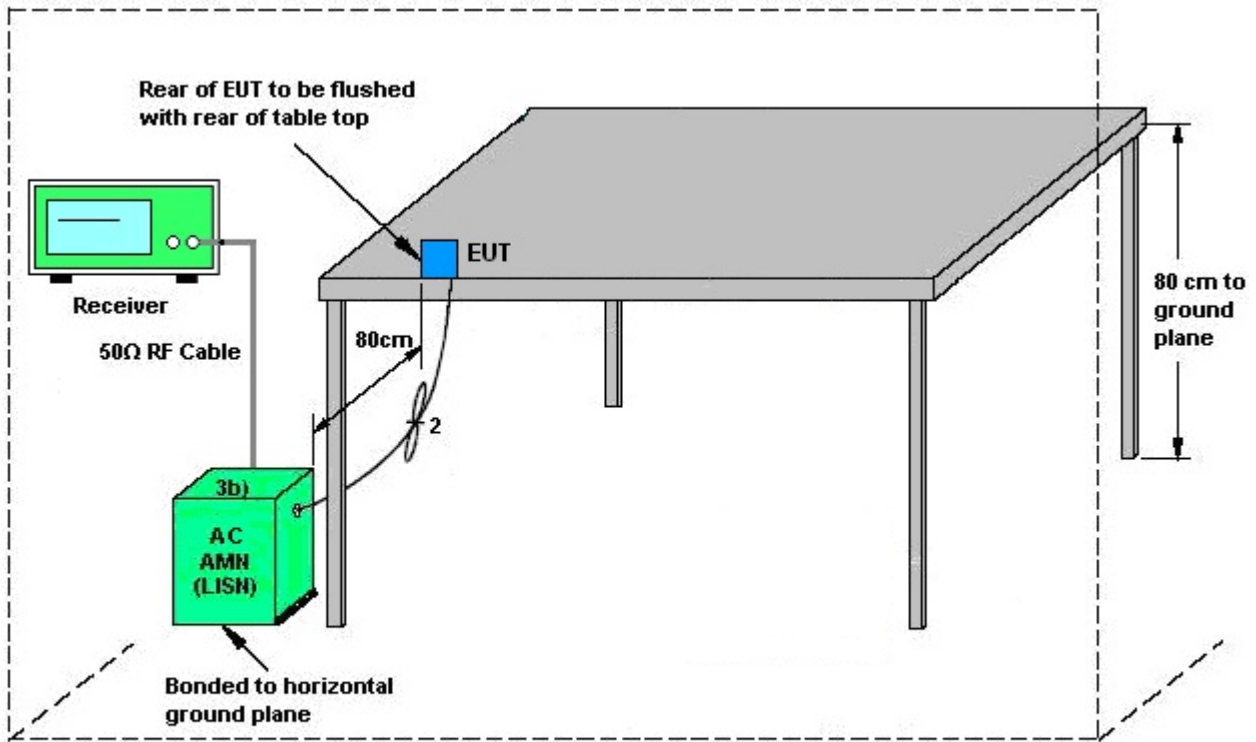
#### 3.5.2 Measuring Instruments

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

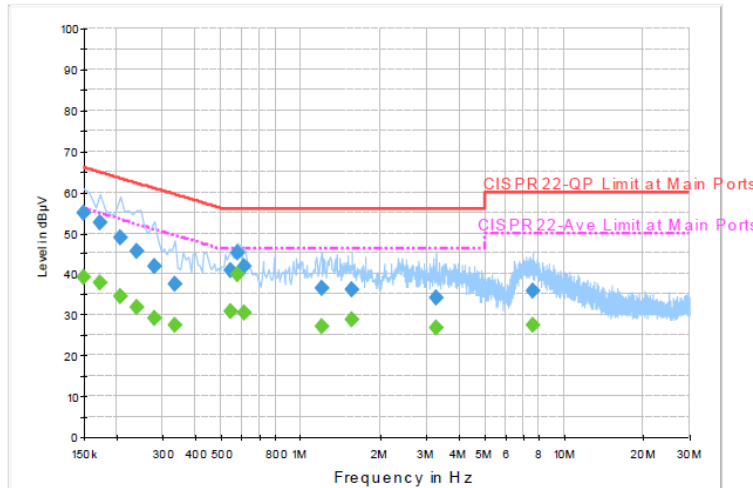


AMN = Artificial mains network (LISN)  
 AE = Associated equipment  
 EUT = Equipment under test  
 ISN = Impedance stabilization network



3.5.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	23~25°C
Test Engineer :	Eric Jeng	Relative Humidity :	53~56%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WLAN (5GHz) Link + Bluetooth Link		

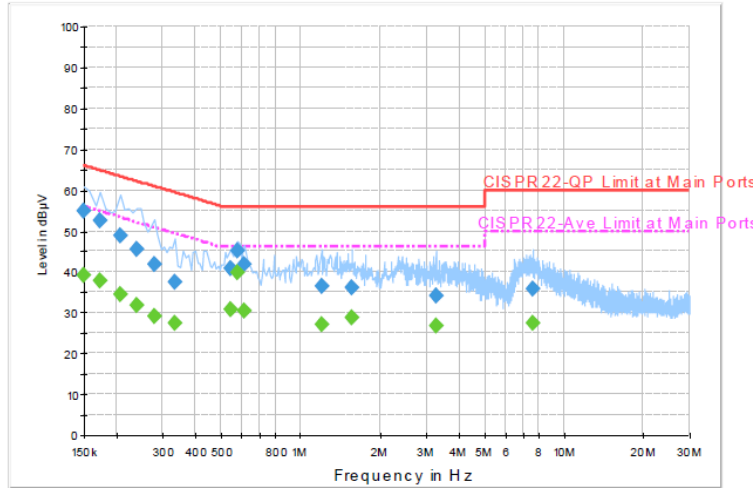


Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	54.8	Off	L1	19.5	11.2	66.0
0.174000	52.4	Off	L1	19.5	12.4	64.8
0.206000	48.7	Off	L1	19.4	14.7	63.4
0.238000	45.5	Off	L1	19.5	16.7	62.2
0.278000	41.8	Off	L1	19.4	19.1	60.9
0.334000	37.4	Off	L1	19.5	22.0	59.4
0.542000	40.9	Off	L1	19.4	15.1	56.0
0.574000	45.1	Off	L1	19.5	10.9	56.0
0.614000	41.9	Off	L1	19.5	14.1	56.0
1.198000	36.5	Off	L1	19.6	19.5	56.0
1.566000	36.2	Off	L1	19.5	19.8	56.0
3.262000	34.2	Off	L1	19.7	21.8	56.0
7.630000	35.9	Off	L1	19.7	24.1	60.0



Test Mode :	Mode 1	Temperature :	23~25°C
Test Engineer :	Eric Jeng	Relative Humidity :	53~56%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WLAN (5GHz) Link + Bluetooth Link		

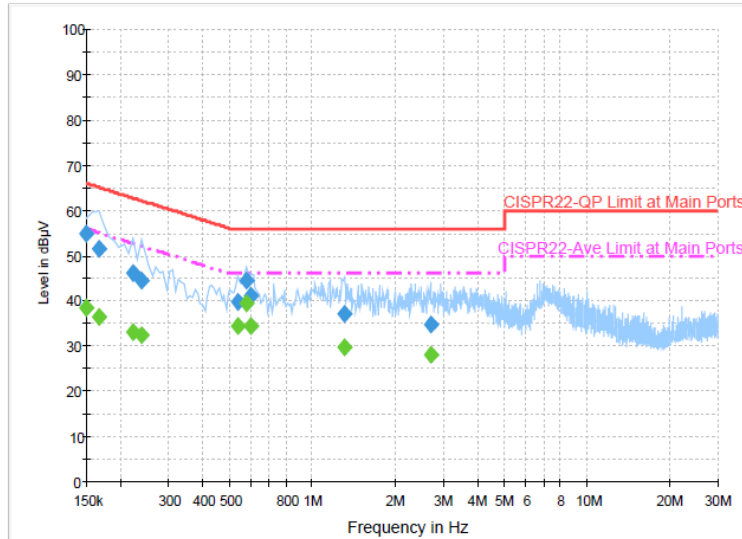


Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	39.1	Off	L1	19.5	16.9	56.0
0.174000	37.8	Off	L1	19.5	17.0	54.8
0.206000	34.3	Off	L1	19.4	19.1	53.4
0.238000	31.9	Off	L1	19.5	20.3	52.2
0.278000	29.2	Off	L1	19.4	21.7	50.9
0.334000	27.5	Off	L1	19.5	21.9	49.4
0.542000	30.7	Off	L1	19.4	15.3	46.0
0.574000	39.6	Off	L1	19.5	6.4	46.0
0.614000	30.6	Off	L1	19.5	15.4	46.0
1.198000	27.1	Off	L1	19.6	18.9	46.0
1.566000	28.8	Off	L1	19.5	17.2	46.0
3.262000	26.9	Off	L1	19.7	19.1	46.0
7.630000	27.3	Off	L1	19.7	22.7	50.0



Test Mode :	Mode 1	Temperature :	23~25°C
Test Engineer :	Eric Jeng	Relative Humidity :	53~56%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WLAN (5GHz) Link + Bluetooth Link		



**Final Result : QuasiPeak**

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	55.0	Off	N	19.5	11.0	66.0
0.166000	51.6	Off	N	19.4	13.6	65.2
0.222000	46.3	Off	N	19.4	16.4	62.7
0.238000	44.5	Off	N	19.5	17.7	62.2
0.534000	40.0	Off	N	19.4	16.0	56.0
0.574000	44.5	Off	N	19.5	11.5	56.0
0.598000	41.3	Off	N	19.5	14.7	56.0
1.302000	37.1	Off	N	19.6	18.9	56.0
2.694000	34.9	Off	N	19.7	21.1	56.0

**Final Result : Average**

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	38.5	Off	N	19.5	17.5	56.0
0.166000	36.6	Off	N	19.4	18.6	55.2
0.222000	32.9	Off	N	19.4	19.8	52.7
0.238000	32.3	Off	N	19.5	19.9	52.2
0.534000	34.5	Off	N	19.4	11.5	46.0
0.574000	39.3	Off	N	19.5	6.7	46.0
0.598000	34.4	Off	N	19.5	11.6	46.0
1.302000	29.8	Off	N	19.6	16.2	46.0
2.694000	28.0	Off	N	19.7	18.0	46.0



### 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.

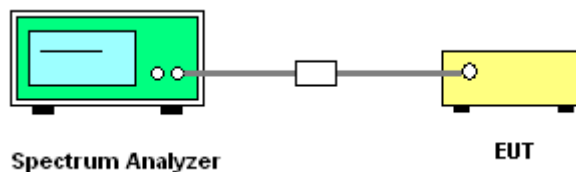
#### 3.6.2 Measuring Instruments

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**

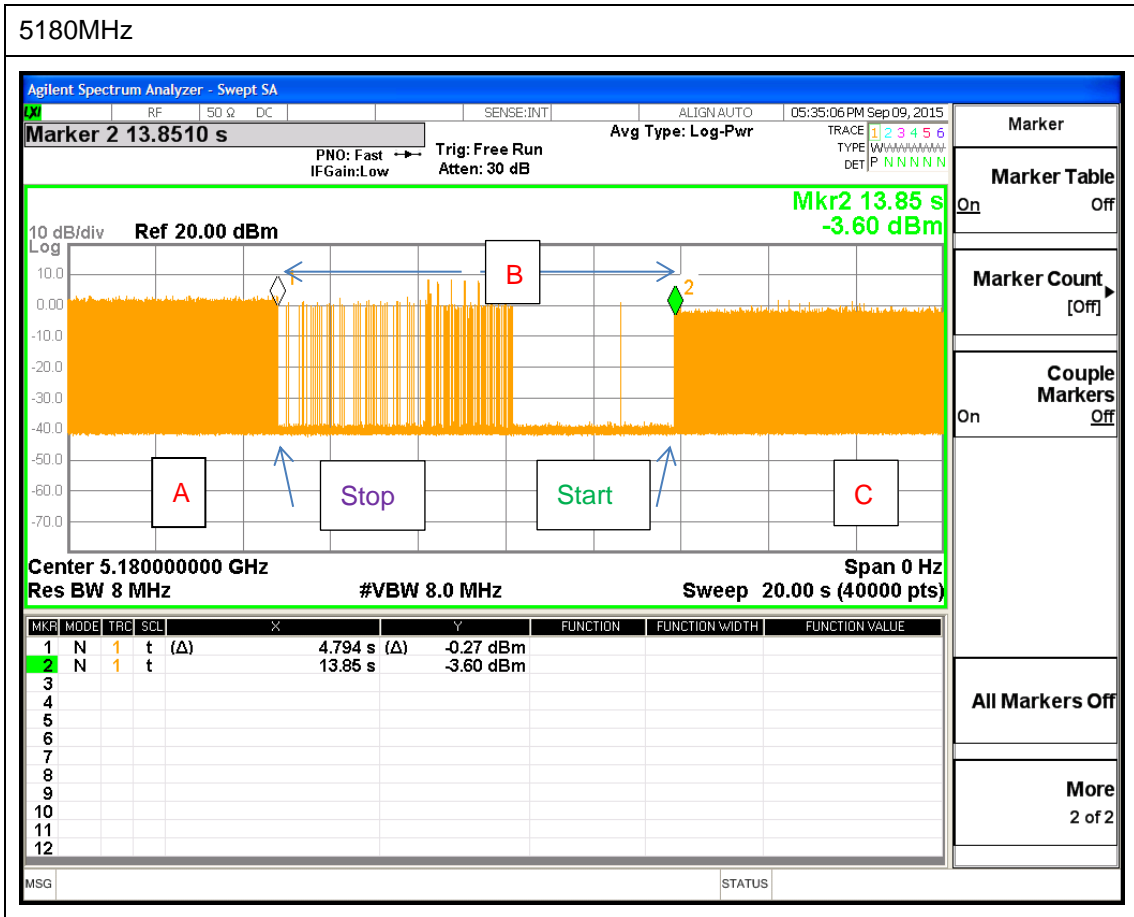
EUT is verified this characteristic during the function check of normal sample associated with an access point:

- 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.



**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

$$DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$

where

Each antenna is driven by no more than one spatial stream;

$N_{SS}$  = the number of independent spatial streams of data;

$N_{ANT}$  = the total number of antennas

$g_{j,k} = 10^{G_k / 20}$  if the  $k$ th antenna is being fed by spatial stream  $j$ , or zero if it is not;  
 $G_k$  is the gain in dBi of the  $k$ th antenna.

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.



			DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
Ant 1 (dBi)	Ant 2 (dBi)					
<b>Band I</b>	4.10	5.50	7.84	7.84	1.84	1.84

*Power Limit Reduction = DG(Power) – 6dBi, ( min = 0 )*

*PSD Limit Reduction = DG(PSD) – 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	1218006	300MHz~40GHz	Oct. 18, 2014	Jun. 15, 2015 ~ Sep. 09, 2015	Oct. 17, 2015	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	1126017	300MHz~40GHz	Oct. 18, 2014	Jun. 15, 2015 ~ Sep. 09, 2015	Oct. 17, 2015	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100057	9kHz-40GHz	Oct. 17, 2014	Jun. 15, 2015 ~ Sep. 09, 2015	Oct. 16, 2015	Conducted (TH05-HY)
Temperature Chamber	ESPEC	SU-241	92003713	-30°C~95°C	Jun. 15, 2015	Jun. 15, 2015 ~ Sep. 09, 2015	Jun. 14, 2016	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSQ	200578/026	20Hz~26.5GHz	May 19, 2015	Jun. 15, 2015 ~ Sep. 09, 2015	May 18, 2016	Conducted (TH05-HY)
AC Power Source	AC POWER	AFC-500W	F104070011	50Hz~60Hz	Dec. 30, 2014	Jun. 15, 2015 ~ Sep. 09, 2015	Dec. 29, 2015	Conducted (TH05-HY)
Bilog Antenna	Schaffner	CBL6111C	2726	30MHz ~ 1GHz	Sep. 27, 2014	Jun. 15, 2015 ~ Aug. 07, 2015	Sep. 26, 2015	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Aug. 19, 2014	Jun. 15, 2015 ~ Aug. 07, 2015	Aug. 18, 2015	Radiation (03CH07-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 30, 2014	Jun. 15, 2015 ~ Aug. 07, 2015	Aug. 29, 2015	Radiation (03CH07-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1328	1GHz ~ 18GHz	Nov. 05, 2014	Jun. 15, 2015 ~ Aug. 07, 2015	Nov. 04, 2015	Radiation (03CH07-HY)
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Nov. 03, 2014	Jun. 15, 2015 ~ Aug. 07, 2015	Nov. 02, 2015	Radiation (03CH07-HY)
Loop Antenna	TESEQ	HLA6120	31244	9 kHz~30 MHz	Fed. 02 ,2015	Jun. 15, 2015 ~ Aug. 07, 2015	Fed. 01, 2016	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1590075	1GHz ~ 18GHz	Apr. 20, 2015	Jun. 15, 2015 ~ Aug. 07, 2015	Apr. 19, 2016	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	10MHz-1000MHz	Mar. 12, 2015	Jun. 15, 2015 ~ Aug. 07, 2015	Mar. 11, 2016	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1GHz~ 26.5GHz	Oct. 21, 2014	Jun. 15, 2015 ~ Aug. 07, 2015	Oct. 20, 2015	Radiation (03CH07-HY)
Signal Analyzer	Rohde & Schwarz	FSV 30	101749	10Hz~30GHz	Mar. 10, 2015	Jun. 15, 2015 ~ Aug. 07, 2015	Mar. 09, 2016	Radiation (03CH07-HY)
Turn Table	ChainTek	ChainTek 3000	N/A	0 ~ 360 degree	N/A	Jun. 15, 2015 ~ Aug. 07, 2015	N/A	Radiation (03CH07-HY)
Antenna Mast	ChainTek	ChainTek 3000	N/A	N/A	N/A	Jun. 15, 2015 ~ Aug. 07, 2015	N/A	Radiation (03CH07-HY)
EMI Test Receiver	Rohde & Schwarz	ESCS 30	100356	9kHz ~ 2.75GHz	Dec. 01, 2014	Jun. 16, 2015	Nov. 30, 2015	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	Apr. 20, 2015	Jun. 16, 2015	Apr. 19, 2016	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 02, 2014	Jun. 16, 2015	Dec. 01, 2015	Conduction (CO05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Jun. 16, 2015	N/A	Conduction (CO05-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
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### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	4.50
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## Appendix A. Conducted Test Results

Test Engineer:	Lyffy lin and Derek Hsu	Temperature:	24~26	°C
Test Date:	2015/06/15 ~ 2015/09/09	Relative Humidity:	45~49	%



**TEST RESULTS DATA**  
**26dB and 99% OBW**

Band I													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)		26 dB Bandwidth (MHz)		IC 99% Bandwidth Power Limit (dBm)		IC 99% Bandwidth EIRP Limit (dBm)		Note
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	36	5180	17.35	-	22.60	-	-	-	22.39	-	
11a	6Mbps	1	44	5220	17.40	-	22.25	-	-	-	22.41	-	
11a	6Mbps	1	48	5240	17.35	-	22.50	-	-	-	22.39	-	
HT20	MCS0	1	36	5180	18.35	-	23.35	-	-	-	22.64	-	
HT20	MCS0	1	44	5220	18.35	-	23.00	-	-	-	22.64	-	
HT20	MCS0	1	48	5240	18.35	-	23.00	-	-	-	22.64	-	
HT40	MCS0	1	38	5190	36.00	-	42.75	-	-	-	23.01	-	
HT40	MCS0	1	46	5230	36.10	-	42.84	-	-	-	23.01	-	
HT20	MCS0	2	36	5180	18.35	18.30	23.40	23.05	-	-	22.62	-	
HT20	MCS0	2	44	5220	18.30	18.35	23.15	22.85	-	-	22.62	-	
HT20	MCS0	2	48	5240	18.25	18.30	22.90	22.85	-	-	22.61	-	
HT40	MCS0	2	38	5190	36.00	35.90	42.66	41.67	-	-	23.01	-	
HT40	MCS0	2	46	5230	36.00	36.00	41.58	42.66	-	-	23.01	-	

**TEST RESULTS DATA**  
**Average Power Table**

FCC Band I														
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	36	5180	0.05	-	13.74	-		24.00	-	4.10	5.50	Pass
11a	6Mbps	1	44	5220	0.05	-	14.04	-		24.00	-	4.10	5.50	Pass
11a	6Mbps	1	48	5240	0.05	-	13.76	-		24.00	-	4.10	5.50	Pass
HT20	MCS0	1	36	5180	0.05	-	13.67	-		24.00	-	4.10	5.50	Pass
HT20	MCS0	1	44	5220	0.05	-	13.87	-		24.00	-	4.10	5.50	Pass
HT20	MCS0	1	48	5240	0.05	-	13.54	-		24.00	-	4.10	5.50	Pass
HT40	MCS0	1	38	5190	0.18	-	9.83	-		24.00	-	4.10	5.50	Pass
HT40	MCS0	1	46	5230	0.18	-	14.46	-		24.00	-	4.10	5.50	Pass
HT20	MCS0	2	36	5180	0.09	0.09	12.04	13.05	15.58	22.16		7.84		Pass
HT20	MCS0	2	44	5220	0.09	0.09	11.59	12.45	15.05	22.16		7.84		Pass
HT20	MCS0	2	48	5240	0.09	0.09	11.23	12.05	14.67	22.16		7.84		Pass
HT40	MCS0	2	38	5190	0.18	0.14	11.04	8.50	12.97	22.16		7.84		Pass
HT40	MCS0	2	46	5230	0.18	0.14	12.38	12.56	15.48	22.16		7.84		Pass

**TEST RESULTS DATA**  
**Power Spectral Density**

FCC Band I														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Power Density (dBm/MHz)			Average PSD Limit (dBm/MHz)		DG (dBi)		Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	36	5180	0.05	-	0.60	-		11.00	-	4.10	5.50	Pass
11a	6Mbps	1	44	5220	0.05	-	0.94	-		11.00	-	4.10	5.50	Pass
11a	6Mbps	1	48	5240	0.05	-	0.63	-		11.00	-	4.10	5.50	Pass
HT20	MCS0	1	36	5180	0.05	-	0.72	-		11.00	-	4.10	5.50	Pass
HT20	MCS0	1	44	5220	0.05	-	0.64	-		11.00	-	4.10	5.50	Pass
HT20	MCS0	1	48	5240	0.05	-	0.45	-		11.00	-	4.10	5.50	Pass
HT40	MCS0	1	38	5190	0.18	-	-5.53	-		11.00	-	4.10	5.50	Pass
HT40	MCS0	1	46	5230	0.18	-	-1.03	-		11.00	-	4.10	5.50	Pass
HT20	MCS0	2	36	5180	0.09	0.09			2.53	9.16		7.84		Pass
HT20	MCS0	2	44	5220	0.09	0.09			2.06	9.16		7.84		Pass
HT20	MCS0	2	48	5240	0.09	0.09			2.07	9.16		7.84		Pass
HT40	MCS0	2	38	5190	0.18	0.14			-1.89	9.16		7.84		Pass
HT40	MCS0	2	46	5230	0.18	0.14			-0.16	9.16		7.84		Pass

**TEST RESULTS DATA**  
**Frequency Stability**

Band I										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stability (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	25	102	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	25	138	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	25	120	
11a	6Mbps	1	36	5180	5180.050	0.050	9.65	0	120	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	35	120	



## Appendix B. Radiated Spurious Emission

Test Engineer :	Nick Yu, Ken Wu, and James Chiu	Temperature :	22~23°C
		Relative Humidity :	58~62%

15E Band 1 - 5150~5250MHz

WIFI 802.11a (Band Edge @ 3m)

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 )	
802.11a CH 36 5180MHz		5150	57.11	-16.89	74	43.44	34.61	11.55	32.49	104	242	P	H	
		5149.85	43.63	-10.37	54	29.96	34.61	11.55	32.49	104	242	A	H	
	*	5180	110.43	-	-	96.74	34.66	11.55	32.52	104	242	P	H	
	*	5180	98.52	-	-	84.83	34.66	11.55	32.52	104	242	A	H	
													H	
													H	
			5146.25	56.97	-17.03	74	43.3	34.61	11.55	32.49	100	117	P	V
			5149.55	42.45	-11.55	54	28.78	34.61	11.55	32.49	100	117	A	V
	*		5180	98.64	-	-	84.95	34.66	11.55	32.52	100	117	P	V
	*		5180	88.24	-	-	74.55	34.66	11.55	32.52	100	117	A	V
													V	
													V	
802.11a CH 44 5220MHz		5078.9	56.46	-17.54	74	42.87	34.52	11.46	32.39	110	243	P	H	
		5149.85	42.86	-11.14	54	29.19	34.61	11.55	32.49	110	243	A	H	
	*	5220	112.31	-	-	98.57	34.7	11.59	32.55	110	243	P	H	
	*	5220	100.58	-	-	86.84	34.7	11.59	32.55	110	243	A	H	
			5350.11	58.31	-15.69	74	44.89	34.89	11.71	33.18	110	243	P	H
			5378.27	43.52	-10.48	54	30.15	34.94	11.71	33.28	110	243	A	H
			5076.5	56.97	-17.03	74	43.38	34.52	11.46	32.39	101	156	P	V
			5147.6	42.45	-11.55	54	28.78	34.61	11.55	32.49	101	156	A	V
	*		5220	101.07	-	-	87.33	34.7	11.59	32.55	101	156	P	V
	*		5220	89.28	-	-	75.54	34.7	11.59	32.55	101	156	A	V
			5383.66	56.78	-17.22	74	43.38	34.94	11.74	33.28	101	156	P	V
			5383.33	42.77	-11.23	54	29.37	34.94	11.74	33.28	101	156	A	V



<b>802.11a CH 48 5240MHz</b>		5144.45	57.78	-16.22	74	44.11	34.61	11.55	32.49	100	242	P	H
		5148.5	43.79	-10.21	54	30.12	34.61	11.55	32.49	100	242	A	H
	*	5240	113.11	-	-	99.41	34.73	11.62	32.65	100	242	P	H
	*	5240	102.12	-	-	88.42	34.73	11.62	32.65	100	242	A	H
		5358.14	59.03	-14.97	74	45.61	34.89	11.71	33.18	100	242	P	H
		5393.12	44.69	-9.31	54	31.29	34.94	11.74	33.28	100	242	A	H
		5140.4	57.84	-16.16	74	44.13	34.61	11.55	32.45	100	155	P	V
		5149.55	43.21	-10.79	54	29.54	34.61	11.55	32.49	100	155	A	V
	*	5240	101.46	-	-	87.76	34.73	11.62	32.65	100	155	P	V
	*	5240	92.22	-	-	78.52	34.73	11.62	32.65	100	155	A	V
		5403.9	57.72	-16.28	74	44.41	34.96	11.74	33.39	100	155	P	V
		5393.89	43.56	-10.44	54	30.16	34.94	11.74	33.28	100	155	A	V
Remark	<ol style="list-style-type: none"> <li>1. No other spurious found.</li> <li>2. All results are PASS against Peak and Average limit line.</li> </ol>												



15E Band 1 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

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 )
802.11a CH 36 5180MHz		10360	54.47	-19.53	74	60.82	37.22	16.34	59.91	100	13	P	H
		10360	41.22	-12.78	54	47.57	37.22	16.34	59.91	100	13	A	H
		15540	47.73	-26.27	74	44.91	40.34	20.36	57.88	100	0	P	H
													H
		10360	57.17	-16.83	74	63.52	37.22	16.34	59.91	100	109	P	V
		10360	44.84	-9.16	54	51.19	37.22	16.34	59.91	100	109	A	V
		15540	48.49	-25.51	74	45.67	40.34	20.36	57.88	100	0	P	V
802.11a CH 44 5220MHz		10440	52.53	-21.47	74	58.71	37.26	16.41	59.85	100	17	P	H
		10440	41.59	-12.41	54	47.77	37.26	16.41	59.85	100	17	A	H
		15660	46.64	-27.36	74	43.55	40.49	20.41	57.81	100	0	P	H
													H
		10440	56.27	-17.73	74	62.45	37.26	16.41	59.85	100	118	P	V
		10440	44.14	-9.86	54	50.32	37.26	16.41	59.85	100	118	A	V
		15660	47.38	-26.62	74	44.29	40.49	20.41	57.81	100	0	P	V
802.11a CH 48 5240MHz		10480	52.53	-21.47	74	58.6	37.29	16.45	59.81	100	13	P	H
		10480	42.28	-11.72	54	48.35	37.29	16.45	59.81	100	13	A	H
		15720	48.61	-25.39	74	45.36	40.57	20.45	57.77	100	0	P	H
													H
		10480	53.37	-20.63	74	59.44	37.29	16.45	59.81	105	111	P	V
		10480	43.12	-10.88	54	49.19	37.29	16.45	59.81	105	111	A	V
		15720	48.58	-25.42	74	45.33	40.57	20.45	57.77	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E Band 1 5150~5250MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

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 )	
802.11n HT20 CH 36 5180MHz		5150	60.68	-13.32	74	47.01	34.61	11.55	32.49	103	243	P	H	
		5150	46.11	-7.89	54	32.44	34.61	11.55	32.49	103	243	A	H	
	*	5180	112.13	-	-	98.44	34.66	11.55	32.52	103	243	P	H	
	*	5180	102.58	-	-	88.89	34.66	11.55	32.52	103	243	A	H	
													H	
														H
			5150	56.87	-17.13	74	43.2	34.61	11.55	32.49	100	156	P	V
			5150	43.46	-10.54	54	29.79	34.61	11.55	32.49	100	156	A	V
		*	5180	100.93	-	-	87.24	34.66	11.55	32.52	100	156	P	V
		*	5180	91.61	-	-	77.92	34.66	11.55	32.52	100	156	A	V
													V	
													V	
802.11n HT20 CH 44 5220MHz		5069.15	58.09	-15.91	74	44.53	34.49	11.46	32.39	102	244	P	H	
		5146.55	43.65	-10.35	54	29.98	34.61	11.55	32.49	102	244	A	H	
		* 5220	111.9	-	-	98.16	34.7	11.59	32.55	102	244	P	H	
		* 5220	102.75	-	-	89.01	34.7	11.59	32.55	102	244	A	H	
			5391.91	58.45	-15.55	74	45.05	34.94	11.74	33.28	102	244	P	H
			5381.02	44.39	-9.61	54	30.99	34.94	11.74	33.28	102	244	A	H
			5076.35	57.35	-16.65	74	43.76	34.52	11.46	32.39	100	164	P	V
			5149.7	43.19	-10.81	54	29.52	34.61	11.55	32.49	100	164	A	V
		*	5220	101.5	-	-	87.76	34.7	11.59	32.55	100	164	P	V
		*	5220	91.75	-	-	78.01	34.7	11.59	32.55	100	164	A	V
		5402.91	57.44	-16.56	74	44.13	34.96	11.74	33.39	100	164	P	V	
		5398.84	43.52	-10.48	54	30.21	34.96	11.74	33.39	100	164	A	V	





<b>802.11n</b>  <b>HT20</b>  <b>CH 48</b>  <b>5240MHz</b>		5064.95	58.53	-15.47	74	44.93	34.49	11.46	32.35	100	247	P	H
		5149.7	43.62	-10.38	54	29.95	34.61	11.55	32.49	100	247	A	H
	*	5240	112.75	-	-	99.05	34.73	11.62	32.65	100	247	P	H
	*	5240	103.27	-	-	89.57	34.73	11.62	32.65	100	247	A	H
		5424.47	58.85	-15.15	74	45.55	34.98	11.8	33.48	100	247	P	H
		5396.64	44.31	-9.69	54	30.89	34.96	11.74	33.28	100	247	A	H
		5148.8	57.54	-16.46	74	43.87	34.61	11.55	32.49	100	155	P	V
		5149.7	43.19	-10.81	54	29.52	34.61	11.55	32.49	100	155	A	V
	*	5240	100.57	-	-	86.87	34.73	11.62	32.65	100	155	P	V
	*	5240	91.3	-	-	77.6	34.73	11.62	32.65	100	155	A	V
		5370.02	57.36	-16.64	74	43.92	34.91	11.71	33.18	100	155	P	V
		5390.15	43.52	-10.48	54	30.12	34.94	11.74	33.28	100	155	A	V

Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.
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15E Band 1 5150~5250MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

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 )
802.11n HT20 CH 36 5180MHz		10360	54.36	-19.64	74	60.71	37.22	16.34	59.91	100	18	P	H
		10360	40.26	-13.74	54	46.61	37.22	16.34	59.91	100	18	A	H
		15540	48.67	-25.33	74	45.85	40.34	20.36	57.88	100	0	P	H
													H
		10360	58.31	-15.69	74	64.66	37.22	16.34	59.91	100	107	P	V
		10360	43.71	-10.29	54	50.06	37.22	16.34	59.91	100	107	A	V
		15540	48.35	-25.65	74	45.53	40.34	20.36	57.88	100	0	P	V
													V
802.11n HT20 CH 44 5220MHz		10440	55.13	-18.87	74	61.31	37.26	16.41	59.85	100	6	P	H
		10440	40.74	-13.26	54	46.92	37.26	16.41	59.85	100	6	A	H
		15660	47.56	-26.44	74	44.47	40.49	20.41	57.81	100	0	P	H
													H
		10440	57.41	-16.59	74	63.59	37.26	16.41	59.85	100	115	P	V
		10440	43.55	-10.45	54	49.73	37.26	16.41	59.85	100	115	A	V
		15660	46.75	-27.25	74	43.66	40.49	20.41	57.81	100	0	P	V
													V
802.11n HT20 CH 48 5240MHz		10480	52.56	-21.44	74	58.63	37.29	16.45	59.81	100	13	P	H
		10480	40.88	-13.12	54	46.95	37.29	16.45	59.81	100	13	A	H
		15720	48.44	-25.56	74	45.19	40.57	20.45	57.77	100	0	P	H
													H
		10480	56.42	-17.58	74	62.49	37.29	16.45	59.81	100	108	P	V
		10480	42.03	-11.97	54	48.1	37.29	16.45	59.81	100	108	A	V
		15720	49.69	-24.31	74	46.44	40.57	20.45	57.77	100	0	P	V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E Band 1 5150~5250MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

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 )
802.11n HT40 CH 38 5190MHz		5149.7	66.85	-7.15	74	53.18	34.61	11.55	32.49	102	245	P	H
		5150	53.28	-0.72	54	39.61	34.61	11.55	32.49	102	245	A	H
	*	5190	107.73	-	-	94	34.66	11.59	32.52	102	245	P	H
	*	5190	97.76	-	-	84.03	34.66	11.59	32.52	102	245	A	H
		5363.53	57.96	-16.04	74	44.52	34.91	11.71	33.18	102	245	P	H
		5391.69	45.21	-8.79	54	31.81	34.94	11.74	33.28	102	245	A	H
		5136.5	57.87	-16.13	74	44.23	34.59	11.5	32.45	103	158	P	V
		5149.85	45.34	-8.66	54	31.67	34.61	11.55	32.49	103	158	A	V
	*	5190	97.26	-	-	83.53	34.66	11.59	32.52	103	158	P	V
	*	5190	87.18	-	-	73.45	34.66	11.59	32.52	103	158	A	V
		5382.78	56.99	-17.01	74	43.59	34.94	11.74	33.28	103	158	P	V
		5381.35	44.35	-9.65	54	30.95	34.94	11.74	33.28	103	158	A	V
802.11n HT40 CH 46 5230MHz		5022.2	57.34	-16.66	74	43.8	34.45	11.41	32.32	100	265	P	H
		5139.95	44.82	-9.18	54	31.16	34.61	11.5	32.45	100	265	A	H
	*	5230	110.65	-	-	96.95	34.73	11.62	32.65	100	265	P	H
	*	5230	101.39	-	-	87.69	34.73	11.62	32.65	100	265	A	H
		5351.21	59.38	-14.62	74	45.96	34.89	11.71	33.18	100	265	P	H
		5401	45.52	-8.48	54	32.21	34.96	11.74	33.39	100	265	A	H
		5145.2	57.06	-16.94	74	43.39	34.61	11.55	32.49	100	164	P	V
		5140.4	44.27	-9.73	54	30.56	34.61	11.55	32.45	100	164	A	V
	*	5230	100.31	-	-	86.61	34.73	11.62	32.65	100	164	P	V
	*	5230	90.71	-	-	77.01	34.73	11.62	32.65	100	164	A	V
		5394.77	57.5	-16.5	74	44.08	34.96	11.74	33.28	100	164	P	V
		5413.91	44.71	-9.29	54	31.38	34.98	11.74	33.39	100	164	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E Band 1 5150~5250MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

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 )
802.11n HT40 CH 38 5190MHz		10380	46.07	-27.93	74	52.39	37.23	16.34	59.89	100	0	P	H
		15570	46.57	-27.43	74	43.67	40.38	20.38	57.86	100	0	P	H
													H
													H
		10380	46.92	-27.08	74	53.24	37.23	16.34	59.89	100	0	P	V
		15570	47.05	-26.95	74	44.15	40.38	20.38	57.86	100	0	P	V
													V
802.11n HT40 CH 46 5230MHz		10460	51.49	-22.51	74	57.65	37.27	16.41	59.84	100	7	P	H
		10460	41.34	-12.66	54	47.5	37.27	16.41	59.84	100	7	A	H
		15690	48.62	-25.38	74	45.45	40.53	20.43	57.79	100	0	P	H
													H
		10460	53.96	-20.04	74	60.12	37.27	16.41	59.84	100	116	P	V
		10460	43.65	-10.35	54	49.81	37.27	16.41	59.84	100	116	A	V
		15690	48.29	-25.71	74	45.12	40.53	20.43	57.79	100	0	P	V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E Emission below 1GHz

WIFI 802.11n HT40 (LF @ 3m)

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)	
802.11n HT40 LF		31.62	28.79	-11.21	40	40.68	17.76	1.77	31.42	-	-	P	H	
		59.43	26.45	-13.55	40	49.88	6.08	1.77	31.28	-	-	P	H	
		104.25	34.62	-8.88	43.5	52.88	10.5	2.38	31.14	300	54	P	H	
		314.7	27.24	-18.76	46	41.61	13.35	3.28	31	-	-	P	H	
		415.5	25.62	-20.38	46	36.47	16.45	3.52	30.82	-	-	P	H	
		527.5	27.79	-18.21	46	36.35	18.26	3.89	30.71	-	-	P	H	
														H
														H
														H
														H
														H
														H
														H
			36.21	31.39	-8.61	40	45.14	15.76	1.77	31.28	100	164	P	V
			41.88	29.41	-10.59	40	46.24	12.6	1.77	31.2	-	-	P	V
			100.2	34.65	-8.85	43.5	52.97	10.4	2.38	31.1	-	-	P	V
			424.6	22.55	-23.45	46	32.9	16.8	3.63	30.78	-	-	P	V
			527.5	30.52	-15.48	46	39.08	18.26	3.89	30.71	-	-	P	V
			997.9	30.71	-23.29	54	31.25	24.64	5.03	30.21	-	-	P	V
														V
													V	
													V	
													V	
													V	
													V	
Remark	1. No other spurious found. 2. All results are PASS against limit line.													



15E Band 1 5150~5250MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

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 )	
802.11n HT20 CH 36 5180MHz		5148.35	59.16	-14.84	74	45.49	34.61	11.55	32.49	104	62	P	H	
		5148.2	47.53	-6.47	54	33.86	34.61	11.55	32.49	104	62	A	H	
	*	5180	112.38	-	-	98.69	34.66	11.55	32.52	104	62	P	H	
	*	5180	103.3	-	-	89.61	34.66	11.55	32.52	104	62	A	H	
													H	
														H
			5135.75	57.66	-16.34	74	44.02	34.59	11.5	32.45	100	72	P	V
			5148.2	44.61	-9.39	54	30.94	34.61	11.55	32.49	100	72	A	V
		*	5180	103.7	-	-	90.01	34.66	11.55	32.52	100	72	P	V
		*	5180	94.22	-	-	80.53	34.66	11.55	32.52	100	72	A	V
													V	
													V	
802.11n HT20 CH 44 5220MHz		5148.35	58.13	-15.87	74	44.46	34.61	11.55	32.49	100	63	P	H	
		5148.2	48.4	-5.6	54	34.73	34.61	11.55	32.49	100	63	A	H	
		*	5220	111.61	-	-	97.87	34.7	11.59	32.55	100	63	P	H
		*	5220	102.56	-	-	88.82	34.7	11.59	32.55	100	63	A	H
			5379.37	57.96	-16.04	74	44.59	34.94	11.71	33.28	100	63	P	H
			5407.97	46.86	-7.14	54	33.55	34.96	11.74	33.39	100	63	A	H
			5128.85	57.35	-16.65	74	43.71	34.59	11.5	32.45	100	65	P	V
			5147.75	44.13	-9.87	54	30.46	34.61	11.55	32.49	100	65	A	V
		*	5220	104.03	-	-	90.29	34.7	11.59	32.55	100	65	P	V
		*	5220	94.8	-	-	81.06	34.7	11.59	32.55	100	65	A	V
		5411.6	57.34	-16.66	74	44.01	34.98	11.74	33.39	100	65	P	V	
		5382	44.65	-9.35	54	31.25	34.94	11.74	33.28	100	65	A	V	



<b>802.11n</b>  <b>HT20</b>  <b>CH 48</b>  <b>5240MHz</b>		5148.8	57.81	-16.19	74	44.14	34.61	11.55	32.49	103	63	P	H
		5148.2	47.44	-6.56	54	33.77	34.61	11.55	32.49	103	63	A	H
	*	5240	112.12	-	-	98.42	34.73	11.62	32.65	103	63	P	H
	*	5240	102.7	-	-	89	34.73	11.62	32.65	103	63	A	H
		5402.25	58.46	-15.54	74	45.15	34.96	11.74	33.39	103	63	P	H
		5408.08	46.14	-7.86	54	32.83	34.96	11.74	33.39	103	63	A	H
		5030	57.29	-16.71	74	43.75	34.45	11.41	32.32	105	64	P	V
		5148.35	44.14	-9.86	54	30.47	34.61	11.55	32.49	105	64	A	V
	*	5240	104.51	-	-	90.81	34.73	11.62	32.65	105	64	P	V
	*	5240	95.07	-	-	81.37	34.73	11.62	32.65	105	64	A	V
		5423.7	57.35	-16.65	74	43.96	34.98	11.8	33.39	105	64	P	V
		5403.57	44.48	-9.52	54	31.17	34.96	11.74	33.39	105	64	A	V
Remark	3. No other spurious found. 4. All results are PASS against Peak and Average limit line.												



15E Band 1 5150~5250MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

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 )
802.11n HT20 CH 36 5180MHz		10360	51.95	-22.05	74	58.3	37.22	16.34	59.91	100	115	P	H
		10360	39.96	-14.04	54	46.31	37.22	16.34	59.91	100	115	A	H
		15540	48.44	-25.56	74	45.62	40.34	20.36	57.88	100	0	P	H
													H
		10360	52.64	-21.36	74	58.99	37.22	16.34	59.91	100	107	P	V
		10360	41.5	-12.5	54	47.85	37.22	16.34	59.91	100	107	A	V
		15540	47.96	-26.04	74	45.14	40.34	20.36	57.88	100	0	P	V
													V
802.11n HT20 CH 44 5220MHz		10440	49.13	-24.87	74	55.31	37.26	16.41	59.85	100	0	P	H
		15660	46.63	-27.37	74	43.54	40.49	20.41	57.81	100	0	P	H
													H
													H
		10440	50.56	-23.44	74	56.74	37.26	16.41	59.85	100	225	P	V
		10440	38.78	-15.22	54	44.96	37.26	16.41	59.85	100	225	A	V
		15660	47.35	-26.65	74	44.26	40.49	20.41	57.81	100	0	P	V
													V
802.11n HT20 CH 48 5240MHz		10480	47.79	-26.21	74	53.86	37.29	16.45	59.81	100	0	P	H
		15720	49.04	-24.96	74	45.79	40.57	20.45	57.77	100	0	P	H
													H
													H
		10480	48.29	-25.71	74	54.36	37.29	16.45	59.81	100	0	P	V
		15720	49.13	-24.87	74	45.88	40.57	20.45	57.77	100	0	P	V
													V
Remark	3. No other spurious found. 4. All results are PASS against Peak and Average limit line.												





15E Band 1 5150~5250MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

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 )
802.11n HT40 CH 38 5190MHz		5147.75	66.39	-7.61	74	52.72	34.61	11.55	32.49	102	71	P	H
		5150	53.08	-0.92	54	39.41	34.61	11.55	32.49	102	71	A	H
	*	5190	108.83	-	-	95.1	34.66	11.59	32.52	102	71	P	H
	*	5190	98.76	-	-	85.03	34.66	11.59	32.52	102	71	A	H
		5361.77	57.58	-16.42	74	44.14	34.91	11.71	33.18	102	71	P	H
		5407.97	45.6	-8.4	54	32.29	34.96	11.74	33.39	102	71	A	H
		5148.65	62.78	-11.22	74	49.11	34.61	11.55	32.49	101	66	P	V
		5148.5	49.35	-4.65	54	35.68	34.61	11.55	32.49	101	66	A	V
	*	5190	102.86	-	-	89.13	34.66	11.59	32.52	101	66	P	V
	*	5190	93.37	-	-	79.64	34.66	11.59	32.52	101	66	A	V
		5392.57	57.43	-16.57	74	44.03	34.94	11.74	33.28	101	66	P	V
		5381.9	44.64	-9.36	54	31.24	34.94	11.74	33.28	101	66	A	V
802.11n HT40 CH 46 5230MHz		5148.35	58.01	-15.99	74	44.34	34.61	11.55	32.49	102	63	P	H
		5148.05	46.49	-7.51	54	32.82	34.61	11.55	32.49	102	63	A	H
	*	5230	110.35	-	-	96.65	34.73	11.62	32.65	102	63	P	H
	*	5230	101.34	-	-	87.64	34.73	11.62	32.65	102	63	A	H
		5382.23	58.42	-15.58	74	45.02	34.94	11.74	33.28	102	63	P	H
		5408.08	46.14	-7.86	54	32.83	34.96	11.74	33.39	102	63	A	H
		5123.6	57.56	-16.44	74	43.92	34.59	11.5	32.45	104	75	P	V
		5139.05	44.49	-9.51	54	30.85	34.59	11.5	32.45	104	75	A	V
	*	5230	103.48	-	-	89.78	34.73	11.62	32.65	104	75	P	V
	*	5230	93.77	-	-	80.07	34.73	11.62	32.65	104	75	A	V
		5372.99	57.66	-16.34	74	44.22	34.91	11.71	33.18	104	75	P	V
		5389.82	44.89	-9.11	54	31.49	34.94	11.74	33.28	104	75	A	V
Remark	<p>3. No other spurious found.</p> <p>4. All results are PASS against Peak and Average limit line.</p>												



15E Band 1 5150~5250MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

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 )
802.11n HT40 CH 38 5190MHz		10380	48.25	-25.75	74	54.57	37.23	16.34	59.89	100	0	P	H
		15570	46.2	-27.8	74	43.3	40.38	20.38	57.86	100	0	P	H
													H
													H
802.11n HT40 CH 46 5230MHz		10380	47.85	-26.15	74	54.17	37.23	16.34	59.89	100	0	P	V
		15570	46.47	-27.53	74	43.57	40.38	20.38	57.86	100	0	P	V
													V
													V
802.11n HT40 CH 46 5230MHz		10460	47.46	-26.54	74	53.62	37.27	16.41	59.84	100	0	P	H
		15690	47.97	-26.03	74	44.8	40.53	20.43	57.79	100	0	P	H
													H
													H
802.11n HT40 CH 46 5230MHz		10460	49.06	-24.94	74	55.22	37.27	16.41	59.84	100	0	P	V
		15690	47.85	-26.15	74	44.68	40.53	20.43	57.79	100	0	P	V
													V
													V
Remark	3. No other spurious found. 4. All results are PASS against Peak and Average limit line.												



15E Emission below 1GHz

WIFI 802.11n HT40 (LF @ 3m)

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)	
802.11n HT40 LF		57.81	22.37	-17.63	40	45.7	6.16	1.77	31.26	-	-	P	H	
		105.87	32.54	-10.96	43.5	50.76	10.56	2.38	31.16	118	52	P	H	
		194.43	30.79	-12.71	43.5	50.25	8.95	2.69	31.1	-	-	P	H	
		307	29.23	-16.77	46	43.68	13.27	3.28	31	-	-	P	H	
		402.9	26.45	-19.55	46	37.84	15.98	3.52	30.89	-	-	P	H	
		943.3	29.69	-16.31	46	30.8	24.34	4.94	30.39	-	-	P	H	
														H
														H
														H
														H
														H
														H
														H
			36.75	31.37	-8.63	40	45.54	15.32	1.77	31.26	100	129	P	V
			99.39	34.66	-8.84	43.5	53.3	10.4	2.06	31.1	-	-	P	V
			198.75	28.12	-15.38	43.5	47.46	9.07	2.69	31.1	-	-	P	V
			528.2	30.21	-15.79	46	38.75	18.28	3.89	30.71	-	-	P	V
			762.7	27.02	-18.98	46	30.81	22.1	4.48	30.37	-	-	P	V
			929.3	28.88	-17.12	46	30.17	24.27	4.8	30.36	-	-	P	V
														V
													V	
													V	
													V	
													V	
													V	
Remark	3. No other spurious found. 4. All results are PASS against limit line.													



**Note symbol**

*	<b>Fundamental Frequency</b> which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency per 15.209(c).
!	Test result is <b>over limit</b> line.
P/A	<b>Peak</b> or <b>Average</b>
H/V	<b>Horizontal</b> or <b>Vertical</b>



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		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H
2412MHz													

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

**For Peak Limit @ 2390MHz:**

- 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)
- Over Limit(dB)  
= Level(dBμV/m) – Limit Line(dBμV/m)  
= 55.45(dBμV/m) – 74(dBμV/m)  
= -18.55(dB)

**For Average Limit @ 2390MHz:**

- 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)
- 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”.**



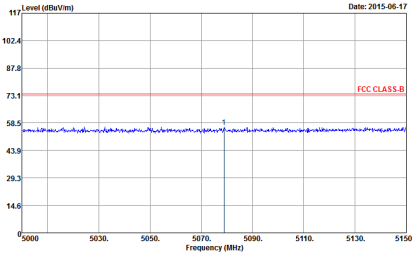
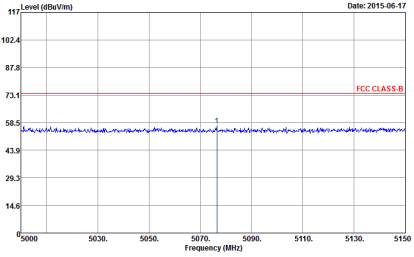
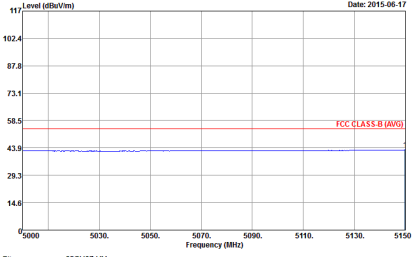
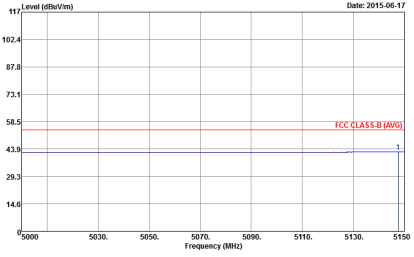
## Appendix C. Radiated Spurious Emission

Test Engineer :	Nick Yu, Ken Wu, and James Chiu	Temperature :	22~23°C
		Relative Humidity :	58~62%

**Band 1 - 5150~5250MHz**  
**WIFI 802.11a (Band Edge @ 3m)**

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
1	Horizontal	Vertical
<b>Peak</b>	<p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL Detector : REW-1000.000kHz VBW-3000.000kHz SVWT-Auto Detector : Peak</p>	<p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL Detector : REW-1000.000kHz VBW-3000.000kHz SVWT-Auto Detector : Peak</p>
<b>Avg.</b>	<p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL Detector : REW-1000.000kHz VBW-0.0100kHz SVWT-Auto Detector : Peak</p>	<p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL Detector : REW-1000.000kHz VBW-0.0100kHz SVWT-Auto Detector : Peak</p>



WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz – Low channel location	
1	Horizontal	Vertical
Peak	 <p>Site : 03CH07.HY            Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL            RBW:1000.000kHz VBW:3000.000kHz SWT:Auto            Detector : Peak</p>	 <p>Site : 03CH07.HY            Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL            RBW:1000.000kHz VBW:3000.000kHz SWT:Auto            Detector : Peak</p>
Avg.	 <p>Site : 03CH07.HY            Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL            RBW:1000.000kHz VBW:0.010kHz SWT:Auto            Detector : Peak</p>	 <p>Site : 03CH07.HY            Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL            RBW:1000.000kHz VBW:0.010kHz SWT:Auto            Detector : Peak</p>



WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - High channel location	
1	Horizontal	Vertical
Peak	<p>Date: 2015-06-17</p> <p>Site : 03CH07-HY            Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL            RBW: 1000.000kHz VBW: 3000.000kHz SWT: Auto            Detector : Peak</p>	<p>Date: 2015-06-17</p> <p>Site : 03CH07-HY            Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL            RBW: 1000.000kHz VBW: 3000.000kHz SWT: Auto            Detector : Peak</p>
Avg.	<p>Date: 2015-06-17</p> <p>Site : 03CH07-HY            Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL            RBW: 1000.000kHz VBW: 0.0100kHz SWT: Auto            Detector : Peak</p>	<p>Date: 2015-06-17</p> <p>Site : 03CH07-HY            Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL            RBW: 1000.000kHz VBW: 0.0100kHz SWT: Auto            Detector : Peak</p>





WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - Low channel location	
1	Horizontal	Vertical
Peak	<p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL Detector : Peak</p>	<p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL Detector : Peak</p>
Avg.	<p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL Detector : Peak</p>	<p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL Detector : Peak</p>



WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - High channel location	
1	Horizontal	Vertical
Peak	<p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak</p>	<p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak</p>
Avg.	<p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL RBW:1000.000kHz VBW:0.010kHz SWT:Auto Detector : Peak</p>	<p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL RBW:1000.000kHz VBW:0.010kHz SWT:Auto Detector : Peak</p>



Band 1 5150~5250MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

Table with 4 columns: WIFI, ANT, 1, and two sub-columns for Horizontal and Vertical. Rows are labeled 'Peak' and 'Avg.' containing spectral plots and technical details.



WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - Low channel location	
1	Horizontal	Vertical
Peak	<p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak</p>	<p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak</p>
Avg.	<p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL RBW:1000.000kHz VBW:0.010kHz SWT:Auto Detector : Peak</p>	<p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL RBW:1000.000kHz VBW:0.010kHz SWT:Auto Detector : Peak</p>

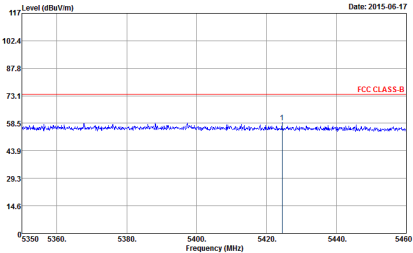
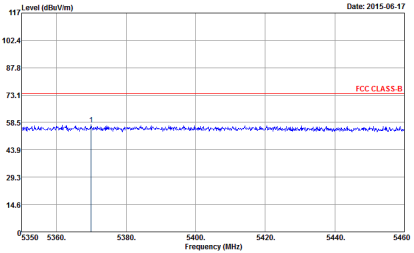
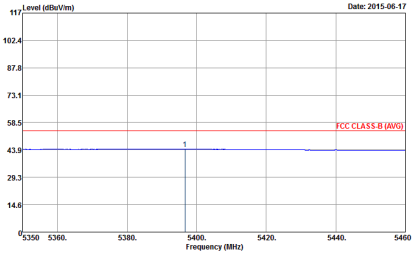
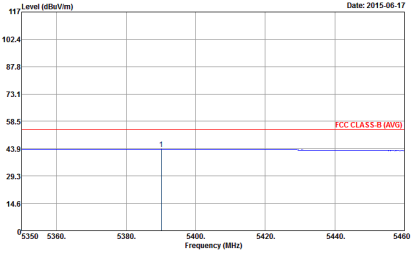


WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - High channel location	
1	Horizontal	Vertical
Peak	<p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL RBW:1000.000kHz VBW:3500.000kHz SWT:Auto Detector : Peak</p>	<p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL RBW:1000.000kHz VBW:3500.000kHz SWT:Auto Detector : Peak</p>
Avg.	<p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL RBW:1000.000kHz VBW:0.010kHz SWT:Auto Detector : Peak</p>	<p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL RBW:1000.000kHz VBW:0.010kHz SWT:Auto Detector : Peak</p>



WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - Low channel location	
1	Horizontal	Vertical
Peak	<p>Date: 2015-06-17</p> <p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL RBW: 1000.000kHz VBW: 3000.000kHz SWT: Auto Detector : Peak</p>	<p>Date: 2015-06-17</p> <p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL RBW: 1000.000kHz VBW: 3000.000kHz SWT: Auto Detector : Peak</p>
Avg.	<p>Date: 2015-06-17</p> <p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL RBW: 1000.000kHz VBW: 0.010kHz SWT: Auto Detector : Peak</p>	<p>Date: 2015-06-17</p> <p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL RBW: 1000.000kHz VBW: 0.010kHz SWT: Auto Detector : Peak</p>



WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - High channel location	
1	Horizontal	Vertical
Peak	 <p>Level (dBuV/m) vs Frequency (MHz) plot for Horizontal orientation. The y-axis ranges from 14.6 to 117 dBuV/m, and the x-axis ranges from 5350 to 5460 MHz. A red horizontal line indicates the FCC CLASS-B limit at 73.1 dBuV/m. The measured signal (blue line) is significantly below this limit, with a peak at approximately 5420 MHz.</p> <p>Site : 03CH07-HY            Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL            RBW:1000.000kHz VBW:3000.000kHz SWT:Auto            Detector : Peak</p>	 <p>Level (dBuV/m) vs Frequency (MHz) plot for Vertical orientation. The y-axis ranges from 14.6 to 117 dBuV/m, and the x-axis ranges from 5350 to 5460 MHz. A red horizontal line indicates the FCC CLASS-B limit at 73.1 dBuV/m. The measured signal (blue line) is significantly below this limit, with a peak at approximately 5420 MHz.</p> <p>Site : 03CH07-HY            Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL            RBW:1000.000kHz VBW:3000.000kHz SWT:Auto            Detector : Peak</p>
Avg.	 <p>Level (dBuV/m) vs Frequency (MHz) plot for Horizontal orientation (Average). The y-axis ranges from 14.6 to 117 dBuV/m, and the x-axis ranges from 5350 to 5460 MHz. A red horizontal line indicates the FCC CLASS-B (AVG) limit at 58.5 dBuV/m. The measured signal (blue line) is below this limit, with a peak at approximately 5420 MHz.</p> <p>Site : 03CH07-HY            Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL            RBW:1000.000kHz VBW:0.010kHz SWT:Auto            Detector : Peak</p>	 <p>Level (dBuV/m) vs Frequency (MHz) plot for Vertical orientation (Average). The y-axis ranges from 14.6 to 117 dBuV/m, and the x-axis ranges from 5350 to 5460 MHz. A red horizontal line indicates the FCC CLASS-B (AVG) limit at 58.5 dBuV/m. The measured signal (blue line) is below this limit, with a peak at approximately 5420 MHz.</p> <p>Site : 03CH07-HY            Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL            RBW:1000.000kHz VBW:0.010kHz SWT:Auto            Detector : Peak</p>



**Band 1 5150~5250MHz**  
**WIFI 802.11n HT40 (Band Edge @ 3m)**

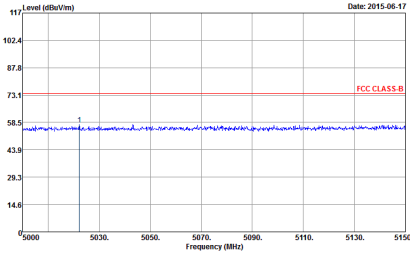
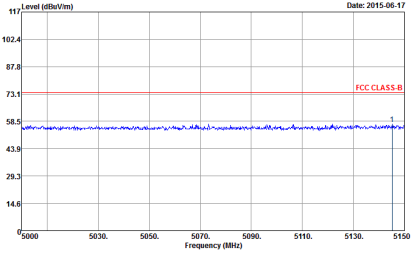
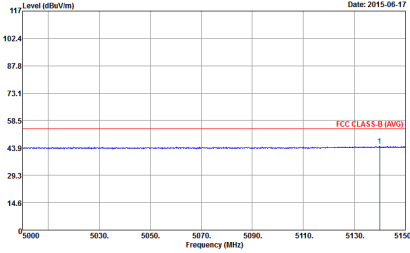
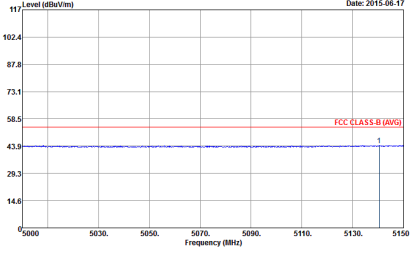
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - Low channel location	
1	Horizontal	Vertical
<b>Peak</b>	<p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL Detector : Peak</p>	<p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL Detector : Peak</p>
<b>Avg.</b>	<p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL Detector : Peak</p>	<p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL Detector : Peak</p>





WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - High channel location	
1	Horizontal	Vertical
Peak	<p>Date: 2015-08-07</p> <p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL RBW: 1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak</p>	<p>Date: 2015-08-07</p> <p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL RBW: 1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak</p>
Avg.	<p>Date: 2015-08-07</p> <p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL RBW: 1000.000kHz VBW:2.000kHz SWT:Auto Detector : Peak</p>	<p>Date: 2015-08-07</p> <p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL RBW: 1000.000kHz VBW:2.000kHz SWT:Auto Detector : Peak</p>



WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - Low channel location	
1	Horizontal	Vertical
Peak	 <p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak</p>	 <p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak</p>
Avg.	 <p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL RBW:1000.000kHz VBW:2.000kHz SWT:Auto Detector : Peak</p>	 <p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL RBW:1000.000kHz VBW:2.000kHz SWT:Auto Detector : Peak</p>



WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - High channel location	
1	Horizontal	Vertical
Peak	<p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak</p>	<p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak</p>
Avg.	<p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL RBW:1000.000kHz VBW:2.000kHz SWT:Auto Detector : Peak</p>	<p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL RBW:1000.000kHz VBW:2.000kHz SWT:Auto Detector : Peak</p>



Band 1 - 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH36 5180MHz	
1	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH07-HY Condition : FCC CLASS-B 3m SHF-EHF_131029 HORIZONTAL Detector : Peak</p>	<p>Site : 03CH07-HY Condition : FCC CLASS-B 3m SHF-EHF_131029 VERTICAL Detector : Peak</p>

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH44 5220MHz	
1	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH07-HY Condition : FCC CLASS-B 3m SHF-EHF_131029 HORIZONTAL Detector : Peak</p>	<p>Site : 03CH07-HY Condition : FCC CLASS-B 3m SHF-EHF_131029 VERTICAL Detector : Peak</p>



WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH48 5240MHz	
1	Horizontal	Vertical
Peak Avg.	<p>Site : 02CH74YF Condition : FCC CLASS-B 3m SHF-EHF_131029 HORIZONTAL Detector : Peak</p>	<p>Site : 02CH74YF Condition : FCC CLASS-B 3m SHF-EHF_131029 VERTICAL Detector : Peak</p>

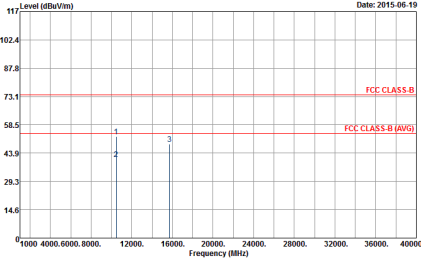
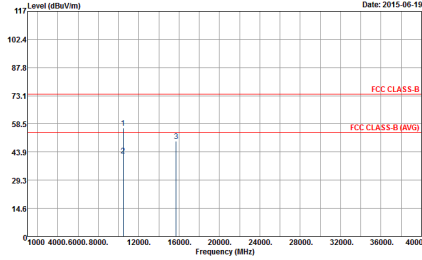


Band 1 5150~5250MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

Table with 2 columns: Horizontal and Vertical. Each column contains a graph showing Level (dBuV/m) vs Frequency (MHz) for Peak and Avg. measurements. Includes site and condition details.

Table with 2 columns: Horizontal and Vertical. Each column contains a graph showing Level (dBuV/m) vs Frequency (MHz) for Peak and Avg. measurements. Includes site and condition details.



WIFI	<b>Band 1 5150~5250MHz Harmonic @ 3m</b>	
ANT	<b>802.11n HT20 CH48 5240MHz</b>	
<b>1</b>	<b>Horizontal</b>	<b>Vertical</b>
<b>Peak Avg.</b>	 <p style="font-size: small;">Date: 2015-06-19</p> <p style="font-size: x-small;">Site : 03CH07 HF Condition : FCC CLASS-B 3m SHF-EHF_131029 HORIZONTAL Detector : Peak</p>	 <p style="font-size: small;">Date: 2015-06-19</p> <p style="font-size: x-small;">Site : 03CH07 HF Condition : FCC CLASS-B 3m SHF-EHF_131029 VERTICAL Detector : Peak</p>



**Band 1 5150~5250MHz**  
**WIFI 802.11n HT40 (Harmonic @ 3m)**

<b>WIFI</b>	<b>Band 1 5150~5250MHz Harmonic @ 3m</b>	
<b>ANT</b>	<b>802.11n HT40 CH38 5190MHz</b>	
<b>1</b>	<b>Horizontal</b>	<b>Vertical</b>
<b>Peak</b> <b>Avg.</b>	<p>Site : 03CH07-HY          Condition : FCC CLASS-B 3m SHF-EHF_131029 HORIZONTAL          Detector : Peak</p>	<p>Site : 03CH07-HY          Condition : FCC CLASS-B 3m SHF-EHF_131029 VERTICAL          Detector : Peak</p>

<b>WIFI</b>	<b>Band 1 5150~5250MHz Harmonic @ 3m</b>	
<b>ANT</b>	<b>802.11n HT40 CH46 5230MHz</b>	
<b>1</b>	<b>Horizontal</b>	<b>Vertical</b>
<b>Peak</b> <b>Avg.</b>	<p>Site : 03CH07-HY          Condition : FCC CLASS-B 3m SHF-EHF_131029 HORIZONTAL          Detector : Peak</p>	<p>Site : 03CH07-HY          Condition : FCC CLASS-B 3m SHF-EHF_131029 VERTICAL          Detector : Peak</p>



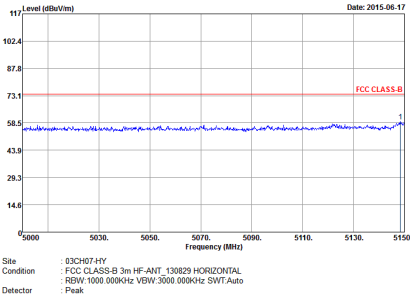
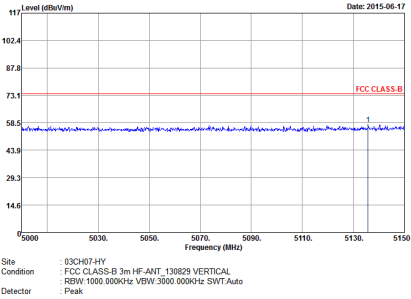
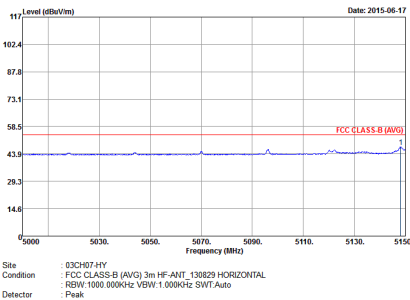
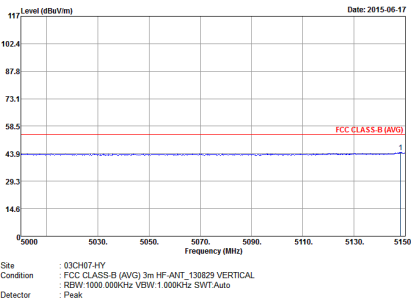


Emission below 1GHz  
5GHz WIFI 802.11n HT40 (LF)

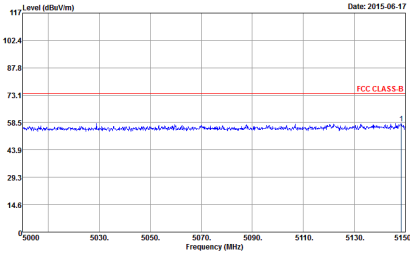
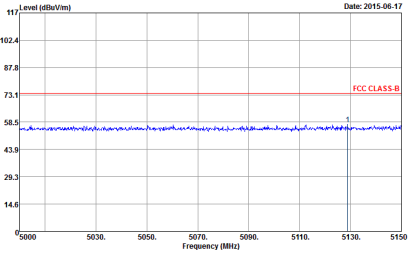
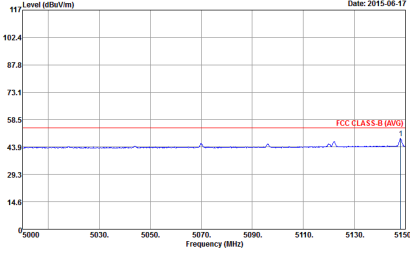
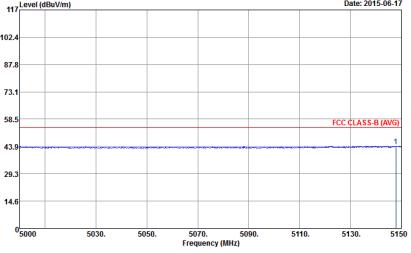
WIFI	5GHz WIFI	
ANT	802.11n HT40 LF	
1	Horizontal	Vertical
QP / Peak	<p>Site : 03CH074YY Condition : FCC CLASS-B 3m LF-ANT(131102) HORIZONTAL Detector : Peak</p>	<p>Site : 03CH074YY Condition : FCC CLASS-B 3m LF-ANT(131102) VERTICAL Detector : Peak</p>



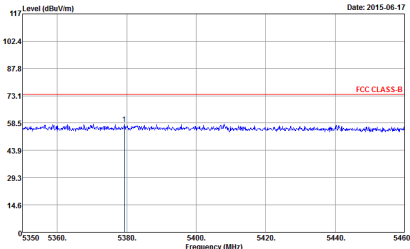
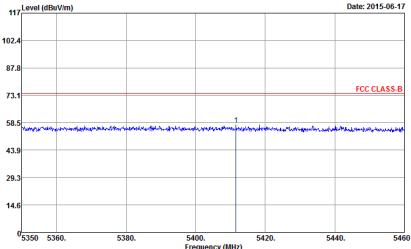
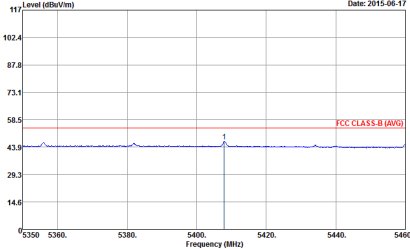
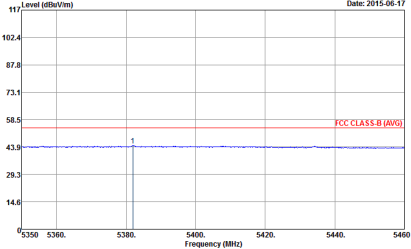
**Band 1 5150~5250MHz**  
**WIFI 802.11n HT20 (Band Edge @ 3m)**

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1+2	Horizontal	Vertical
Peak	 <p>Site : 03CH07-HY            Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL            RBW:1000.000kHz VBW:3000.000kHz SWT:Auto            Detector : Peak</p>	 <p>Site : 03CH07-HY            Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL            RBW:1000.000kHz VBW:3000.000kHz SWT:Auto            Detector : Peak</p>
Avg.	 <p>Site : 03CH07-HY            Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL            RBW:1000.000kHz VBW:1.000kHz SWT:Auto            Detector : Peak</p>	 <p>Site : 03CH07-HY            Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL            RBW:1000.000kHz VBW:1.000kHz SWT:Auto            Detector : Peak</p>

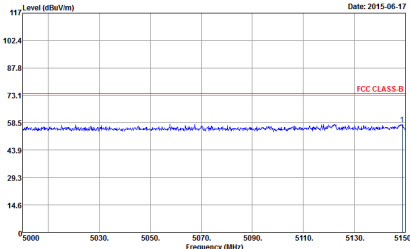
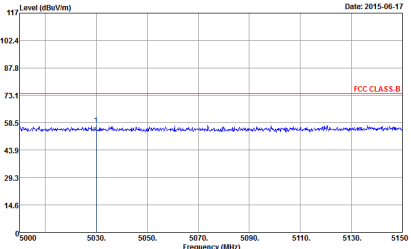
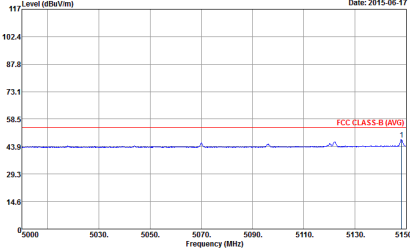
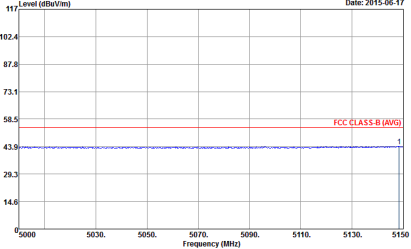


WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - Low channel location	
1+2	Horizontal	Vertical
Peak	 <p>Site : 03CH07.HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak</p>	 <p>Site : 03CH07.HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak</p>
Avg.	 <p>Site : 03CH07.HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL RBW:1000.000kHz VBW:1.000kHz SWT:Auto Detector : Peak</p>	 <p>Site : 03CH07.HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL RBW:1000.000kHz VBW:1.000kHz SWT:Auto Detector : Peak</p>



WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - High channel location	
1+2	Horizontal	Vertical
Peak	 <p>Site : 03CH07.HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak</p>	 <p>Site : 03CH07.HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak</p>
Avg.	 <p>Site : 03CH07.HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL RBW:1000.000kHz VBW:1.000kHz SWT:Auto Detector : Peak</p>	 <p>Site : 03CH07.HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL RBW:1000.000kHz VBW:1.000kHz SWT:Auto Detector : Peak</p>



WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - Low channel location	
1+2	Horizontal	Vertical
Peak	 <p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL Detector : Peak</p>	 <p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL Detector : Peak</p>
Avg.	 <p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL Detector : Peak</p>	 <p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL Detector : Peak</p>



WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - High channel location	
1+2	Horizontal	Vertical
Peak	<p>Site : 03CH07.HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL Detector : Peak</p>	<p>Site : 03CH07.HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL Detector : Peak</p>
Avg.	<p>Site : 03CH07.HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL Detector : Peak</p>	<p>Site : 03CH07.HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL Detector : Peak</p>



**Band 1 5150~5250MHz  
WIFI 802.11n HT40 (Band Edge @ 3m)**

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - Low channel location	
1+2	Horizontal	Vertical
<b>Peak</b>	<p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL Detector : Peak</p>	<p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL Detector : Peak</p>
<b>Avg.</b>	<p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL Detector : Peak</p>	<p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL Detector : Peak</p>



WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - High channel location	
1+2	Horizontal	Vertical
Peak	<p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL RBW: 1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak</p>	<p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL RBW: 1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak</p>
Avg.	<p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL RBW: 1000.000kHz VBW:2.000kHz SWT:Auto Detector : Peak</p>	<p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL RBW: 1000.000kHz VBW:2.000kHz SWT:Auto Detector : Peak</p>





WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - Low channel location	
1+2	Horizontal	Vertical
Peak	<p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak</p>	<p>Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak</p>
Avg.	<p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL RBW:1000.000kHz VBW:2.000kHz SWT:Auto Detector : Peak</p>	<p>Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL RBW:1000.000kHz VBW:2.000kHz SWT:Auto Detector : Peak</p>



WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - High channel location	
1+2	Horizontal	Vertical
Peak	<p>Site : 03CH07.HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak</p>	<p>Site : 03CH07.HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Detector : Peak</p>
Avg.	<p>Site : 03CH07.HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL RBW:1000.000kHz VBW:2.000kHz SWT:Auto Detector : Peak</p>	<p>Site : 03CH07.HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL RBW:1000.000kHz VBW:2.000kHz SWT:Auto Detector : Peak</p>



Band 1 5150~5250MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

Table with 2 columns: Horizontal and Vertical. Each column contains a graph showing Level (dBuV/m) vs Frequency (MHz) for Peak and Avg. measurements. Includes site and condition details.

Table with 2 columns: Horizontal and Vertical. Each column contains a graph showing Level (dBuV/m) vs Frequency (MHz) for Peak and Avg. measurements. Includes site and condition details.



<b>WIFI</b>	<b>Band 1 5150-5250MHz Harmonic @ 3m</b>	
<b>ANT</b>	<b>802.11n HT20 CH48 5240MHz</b>	
<b>1+2</b>	<b>Horizontal</b>	<b>Vertical</b>
<b>Peak Avg.</b>	<p style="font-size: small;">Date: 2015-06-18</p> <p style="font-size: x-small;">Site : 03CH074Y Condition : FCC CLASS-B 3m SHF-EHF_131029 HORIZONTAL Detector : Peak</p>	<p style="font-size: small;">Date: 2015-06-18</p> <p style="font-size: x-small;">Site : 03CH074Y Condition : FCC CLASS-B 3m SHF-EHF_131029 VERTICAL Detector : Peak</p>



Band 1 5150~5250MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

Table with 2 columns: Horizontal and Vertical. Contains two graphs showing Level (dBuV/m) vs Frequency (MHz) for Peak and Avg. measurements. Includes site and condition details.

Table with 2 columns: Horizontal and Vertical. Contains two graphs showing Level (dBuV/m) vs Frequency (MHz) for Peak and Avg. measurements. Includes site and condition details.



**Emission below 1GHz  
5GHz WIFI 802.11n HT40 (LF)**

WIFI	5GHz WIFI	
ANT	802.11n HT40 LF	
1+2	Horizontal	Vertical
QP / Peak	<p>Site : 03CH07.HY Condition : FCC CLASS-B 3m LF-ANTI(131102) HORIZONTAL Detector : Peak</p>	<p>Site : 03CH07.HY Condition : FCC CLASS-B 3m LF-ANTI(131102) VERTICAL Detector : Peak</p>