



# FCC RF Test Report

**APPLICANT** : MITAC International Corp  
**EQUIPMENT** : Tablet  
**BRAND NAME** : Mio, Mitac, Stryker  
**MODEL NAME** : N450  
**FCC ID** : P4Q-N450W  
**STANDARD** : FCC Part 15 Subpart E §15.407  
**CLASSIFICATION** : (NII) Unlicensed National Information Infrastructure

The product was received on Dec. 25, 2015 and testing was completed on Jan. 19, 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



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# TABLE OF CONTENTS

**REVISION HISTORY ..... 3**

**SUMMARY OF TEST RESULT ..... 4**

**1 GENERAL DESCRIPTION ..... 5**

    1.1 Applicant ..... 5

    1.2 Manufacturer ..... 5

    1.3 Product Feature of Equipment Under Test ..... 5

    1.4 Product Specification of Equipment Under Test ..... 5

    1.5 Modification of EUT ..... 6

    1.6 Testing Location ..... 6

    1.7 Applicable Standards ..... 7

**2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST ..... 8**

    2.1 Carrier Frequency and Channel ..... 8

    2.2 Pre-Scanned RF Power ..... 9

    2.3 Test Mode ..... 9

    2.4 Connection Diagram of Test System ..... 10

    2.5 Support Unit used in test configuration and system ..... 11

    2.6 EUT Operation Test Setup ..... 11

    2.7 Measurement Results Explanation Example ..... 11

**3 TEST RESULT ..... 12**

    3.1 6dB and 26dB and 99% Occupied Bandwidth Measurement ..... 12

    3.2 Maximum Conducted Output Power Measurement ..... 15

    3.3 Power Spectral Density Measurement ..... 16

    3.4 Unwanted Emissions Measurement ..... 18

    3.5 AC Conducted Emission Measurement ..... 22

    3.6 Frequency Stability Measurement ..... 26

    3.7 Automatically Discontinue Transmission ..... 27

    3.8 Antenna Requirements ..... 28

**4 LIST OF MEASURING EQUIPMENT ..... 29**

**5 UNCERTAINTY OF EVALUATION ..... 30**

**APPENDIX A. CONDUCTED TEST RESULTS**

**APPENDIX B. RADIATED SPURIOUS EMISSION**

**APPENDIX C RADIATED SPURIOUS EMISSION PLOTS**

**APPENDIX D SETUP PHOTOGRAPHS**





### SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
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	≤ -17, -27 dBm/MHz & 15.209(a)	Pass	Under limit 0.07 dB at 4822.000 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 6.50 dB at 0.446 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

**MITAC International Corp**

Building B, No. 209, Sec.1, Nan Gang Rd., Nan Gang Dist., Taipei City 11568, Taiwan, R.O.C.

## 1.2 Manufacturer

**MITAC Computer (Kunshan) Co., Ltd.**

No. 269, 2nd Avenue, District A, Comprehensive Free Trade Zone, 300 Kunshan, China

## 1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Tablet
Brand Name	Mio, Mitac, Stryker
Model Name	N450
FCC ID	P4Q-N450W
EUT supports Radios application	NFC WLAN 11a/b/g/n HT20/HT40 Bluetooth v4.0 EDR/LE
EUT Stage	Production Unit

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

## 1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Channel Frequency Range	5745 MHz ~ 5825 MHz
Maximum Output Power	802.11a : 12.98 dBm / 0.0199 W 802.11n HT20 : 12.90 dBm / 0.0195 W 802.11n HT40 : 12.44 dBm / 0.0175 W
99% Occupied Bandwidth	802.11a : 19.25 MHz 802.11n HT20 : 20.65 MHz 802.11n HT40 : 37.60 MHz
Type of Modulation	OFDM (BPSK / QPSK / 16QAM / 64QAM)
Antenna Type / Gain	PIFA Antenna / 2.64 dBi



### 1.5 Modification of EUT

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

### 1.6 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

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

<b>Test Site</b>	SPORTON INTERNATIONAL INC.	
<b>Test Site Location</b>	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	
<b>Test Site No.</b>	<b>Sporton Site No.</b>	
	03CH11-HY	

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



## 1.7 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 v01r01
- ♦ ANSI C63.10-2013

### **Remark:**

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. 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 (Y 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)
5725-5850 MHz Band 4 (U-NII-3)	149	5745	157	5785
	<b>151</b>	<b>5755</b>	<b>159</b>	<b>5795</b>
	153	5765	161	5805
	155	5775	165	5825

**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.

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)	12.98	12.95	12.93	12.95	12.93	12.48	11.76	10.78

5GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Average Power (dBm)	12.90	12.87	12.83	12.61	12.57	11.95	11.16	10.14

5GHz 802.11n HT40 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Average Power (dBm)	12.44	12.41	12.42	12.42	12.43	12.36	10.96	9.74

## 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.

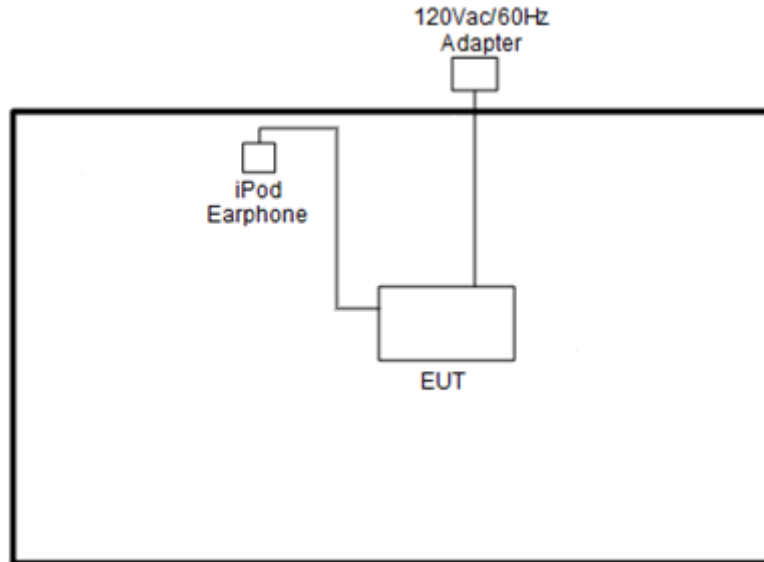
Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0

<b>AC Conducted Emission</b>	Mode 1 : WLAN (5GHz) Link + Bluetooth Link + Camera (Rear) + USB HDD + Adapter + Micro SD + Micro USB Cable (Data Link with Notebook) + Battery + Earphone
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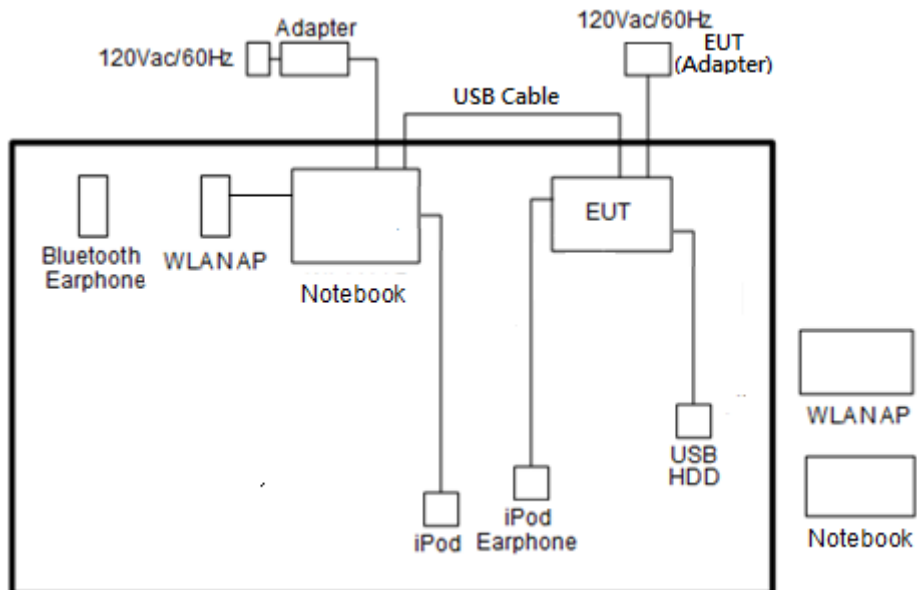
Ch. #	Band IV : 5725-5850 MHz		
	802.11a	802.11n HT20	802.11n HT40
L Low	149	149	151
M Middle	157	157	-
H High	165	165	159

## 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-865L	KA2IR865LA1	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.	Notebook	DELL	P20G	FCC DoC/ Contains FCC ID: QDS-BRCM1051	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
5.	iPod	Apple	A1285	FCC DoC	Shielded, 1.0 m	N/A
6.	iPod Earphone	Apple	N/A	Verification	Unshielded, 1.0 m	N/A
7.	USB HDD	PQI	H568V	FCC DoC	Shielded, 0.45 m	N/A
8.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A

## 2.6 EUT Operation Test Setup

The programmed RF utility “RF Test 0317”, is installed in EUT to provide channel selection, power level, data rate and the application type. RF Utility can send transmitting signal for all testing. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

## 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.

$$\text{Offset} = \text{RF cable loss} + \text{attenuator factor}.$$

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 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.

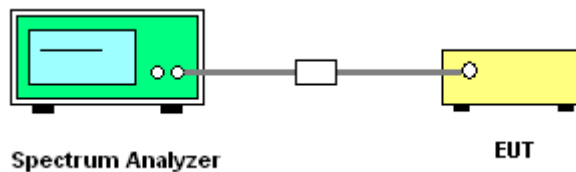
##### 3.1.2 Measuring Instruments

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 v01r01.  
Section C) Emission bandwidth for the band 5.725-5.85GHz
2. Set RBW = 100kHz.
3. Set the VBW  $\geq 3 \times$  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.

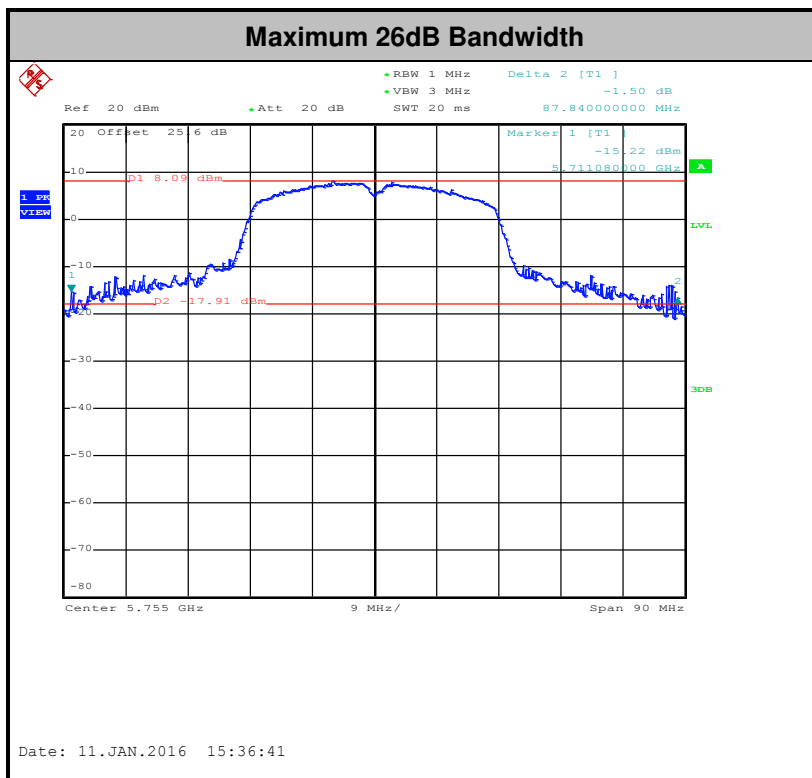
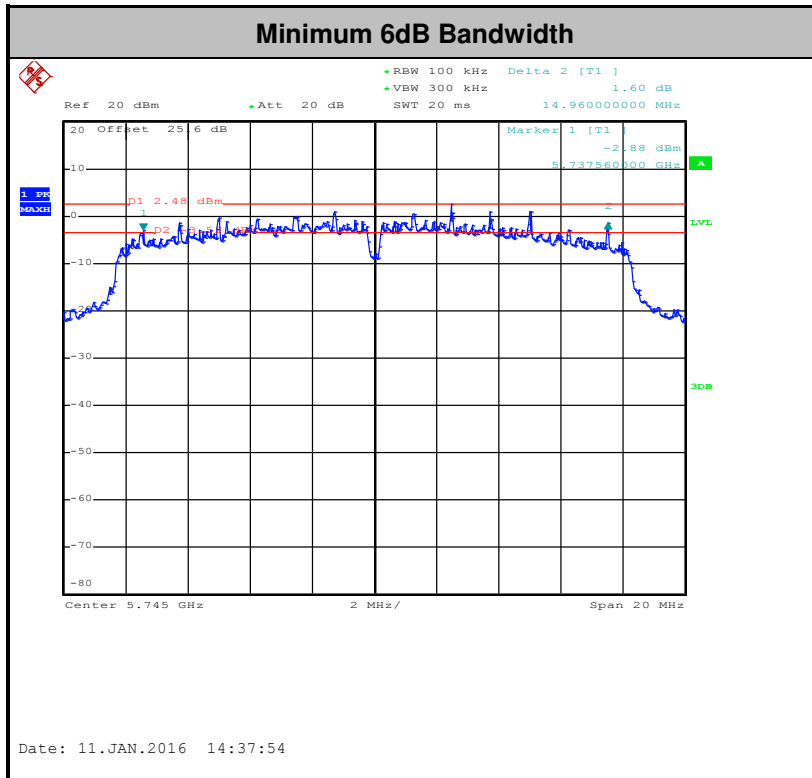
##### 3.1.4 Test Setup

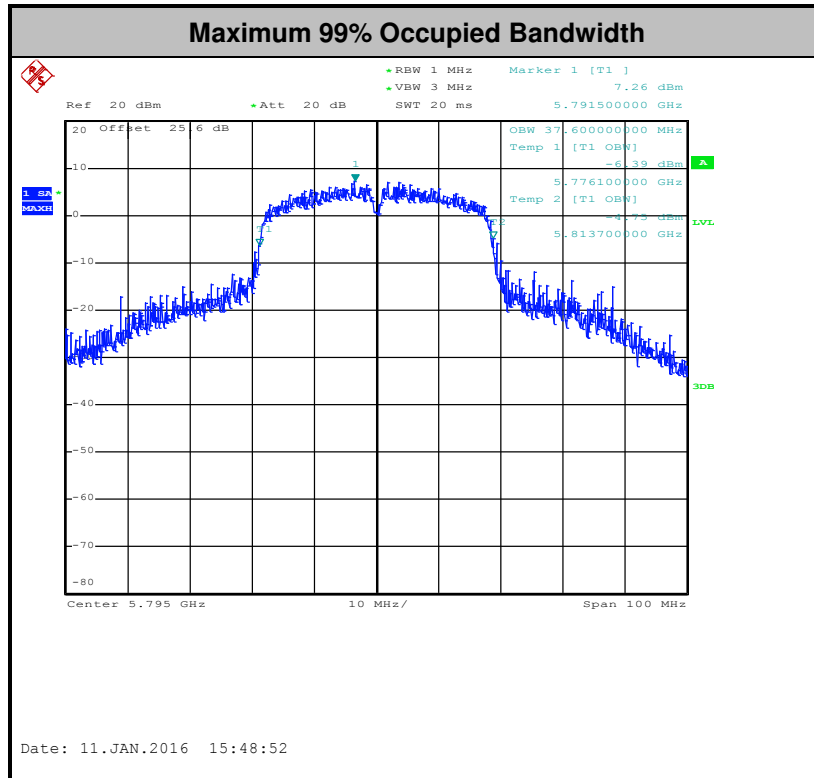




### 3.1.5 Test Result of 6dB Bandwidth

Please refer to Appendix A.





**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.

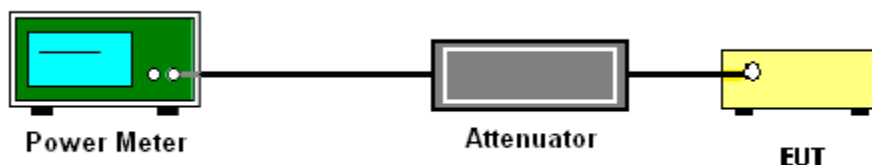
### 3.2.3 Test Procedures

The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r01.

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 v01r01. Section F) Maximum power spectral density.

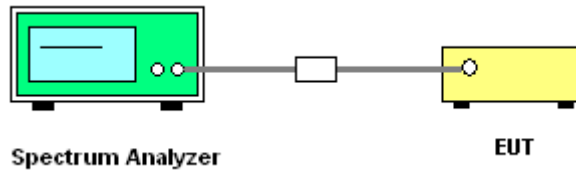
##### # Method SA-2 #

(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 v01r01.
  - Measure the duty cycle.
  - Set span to encompass the entire emission bandwidth (EBW) of the signal.
  - Set RBW = 300 kHz.
  - Set VBW  $\geq$  1 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  $10 \log(500\text{kHz}/\text{RBW})$  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.

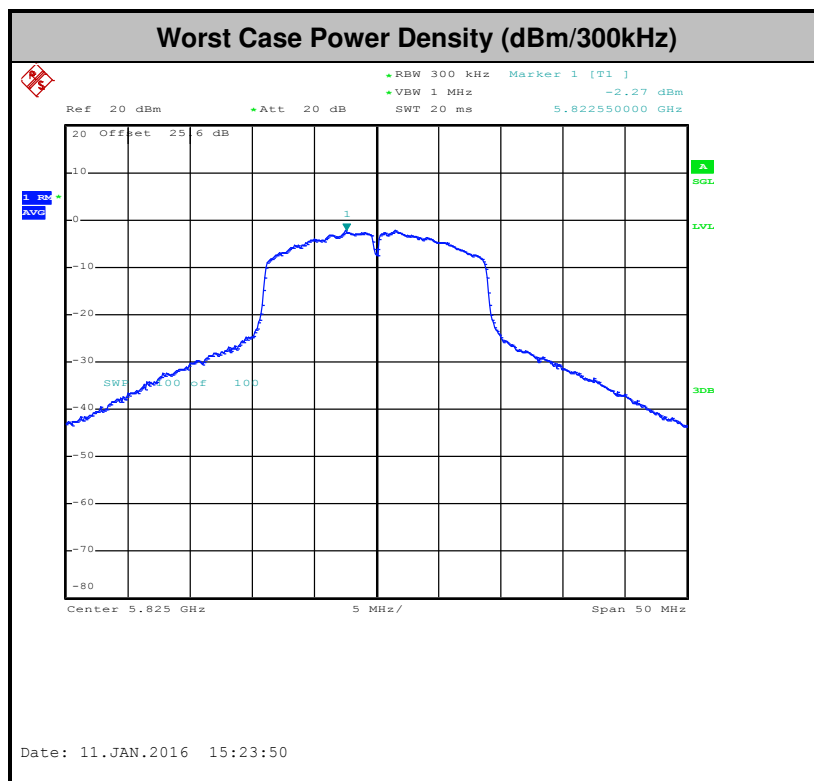


### 3.3.4 Test Setup



### 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 5725-5850 MHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of -17 dBm/MHz (78.3dBµV/m); for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an EIRP of -27 dBm/MHz (68.3dBµV/m).
- (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) KDB 789033 D02 General UNII Test Procedures New Rules v01r01 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 v01r01. 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.
- $VBW \geq 1/T$ , 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.

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
1	802.11a	85.21	1440.00	0.69	1kHz
1	802.11n HT20	83.75	1340.00	0.75	1kHz
1	802.11n HT40	72.17	664.00	1.51	3kHz

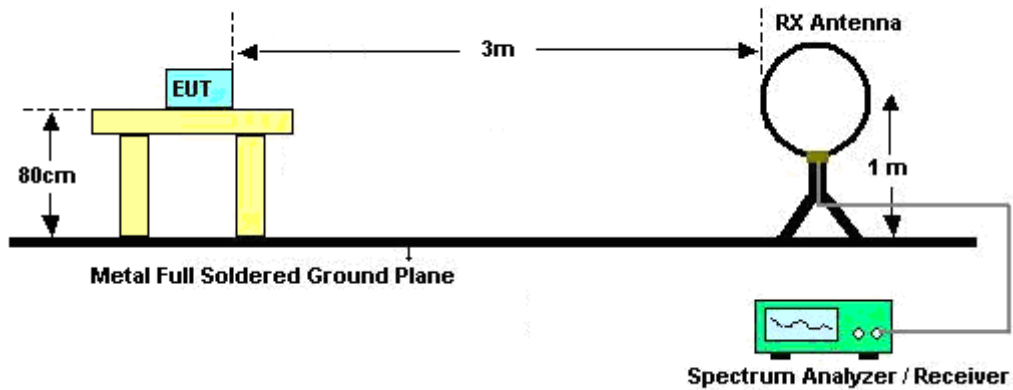
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband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

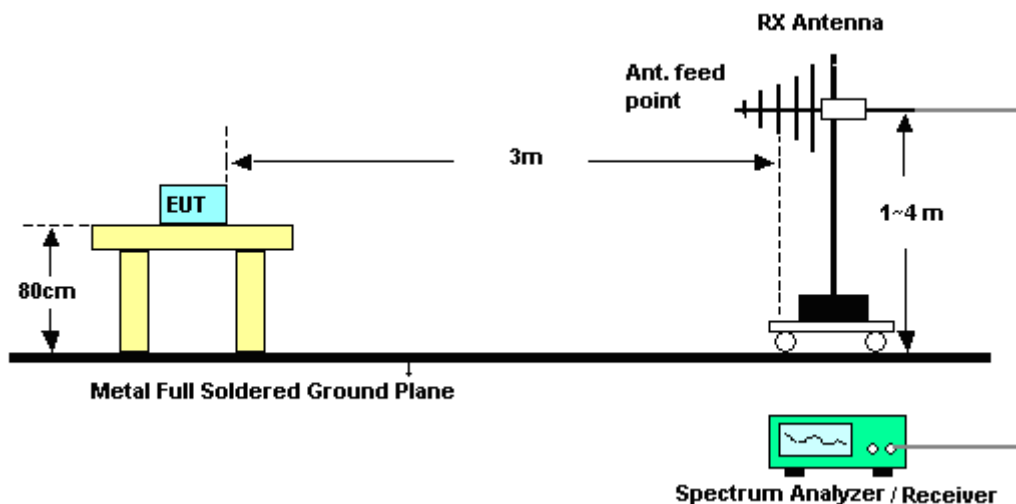
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level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

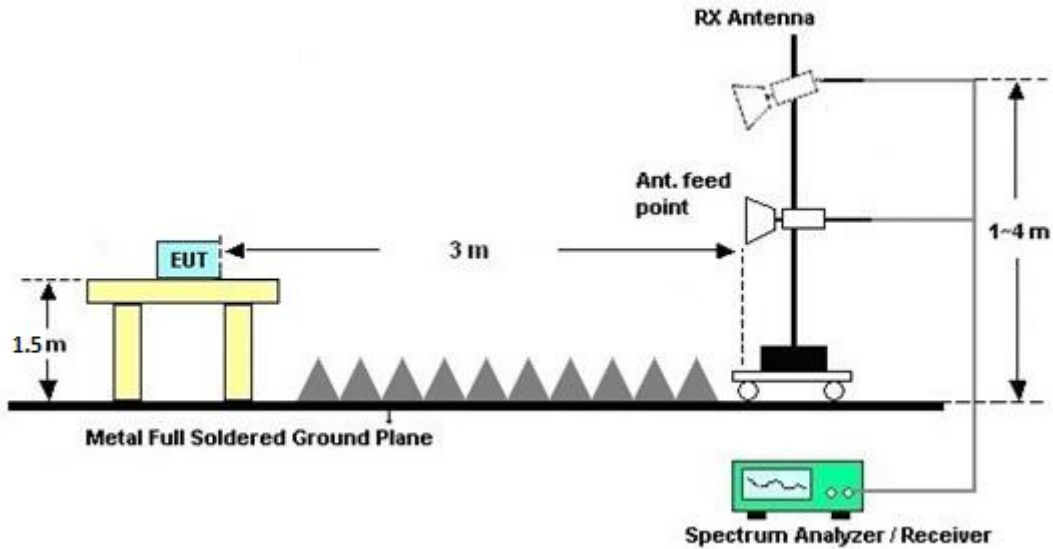
**For radiated emissions below 30MHz**



**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 and Appendix B.

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

Please refer to Appendix A and Appendix B.



### 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.

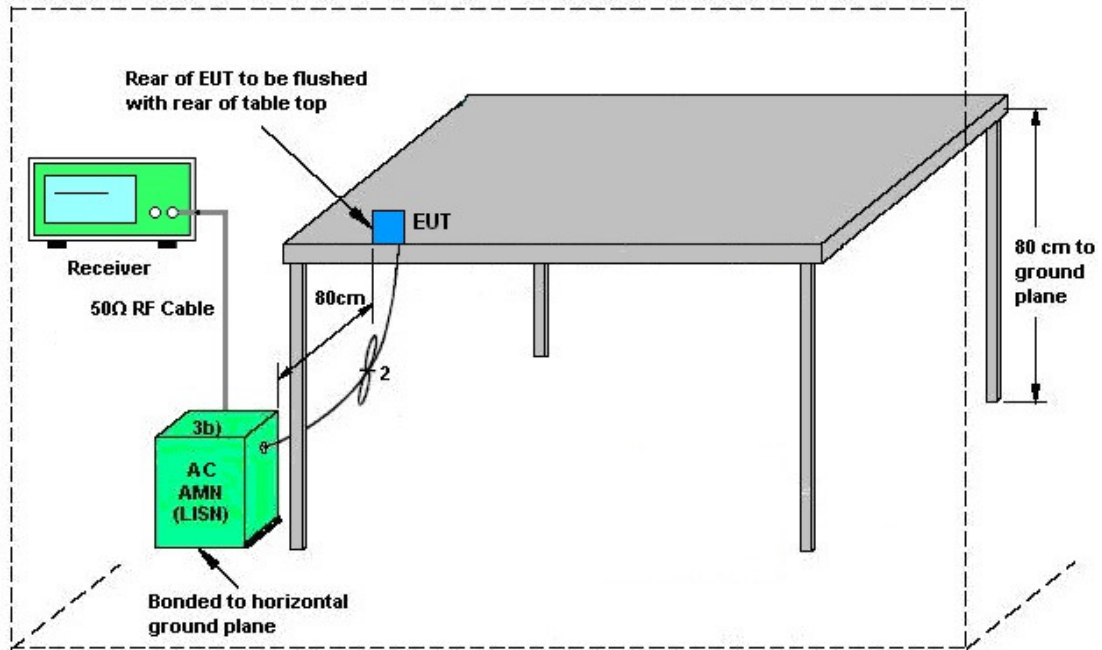
#### 3.5.2 Measuring Instruments

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

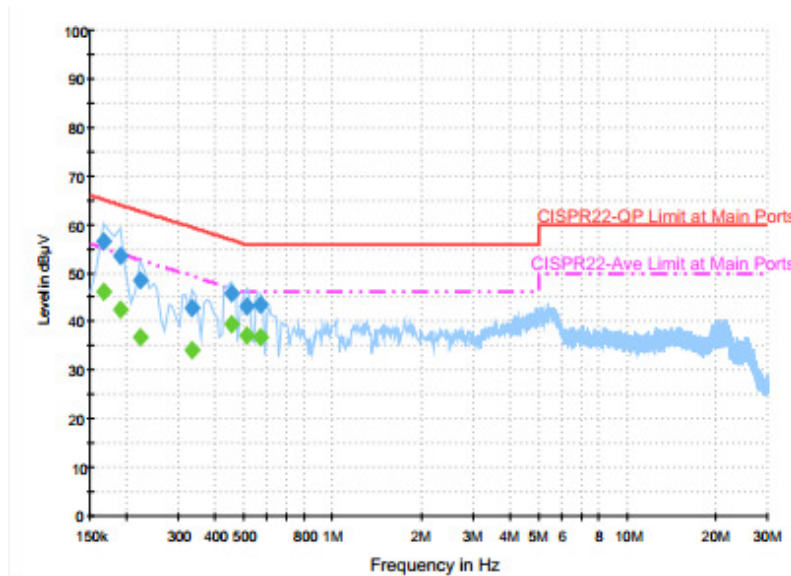


AMN = Artificial mains network (LISH)  
AE = Associated equipment  
EUT = Equipment under test  
ISN = Impedance stabilization network



3.5.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	24~25°C
Test Engineer :	Kai-Chun Chu	Relative Humidity :	51~52%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WLAN (5GHz) Link + Bluetooth Link + Camera (Rear) + USB HDD + Adapter + Micro SD + Micro USB Cable (Data Link with Notebook) + Battery + Earphone		



Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.166000	56.5	Off	L1	19.6	8.7	65.2
0.190000	53.5	Off	L1	19.6	10.5	64.0
0.222000	48.4	Off	L1	19.6	14.3	62.7
0.334000	42.8	Off	L1	19.6	16.6	59.4
0.454000	45.8	Off	L1	19.6	11.0	56.8
0.510000	43.1	Off	L1	19.6	12.9	56.0
0.566000	43.4	Off	L1	19.6	12.6	56.0

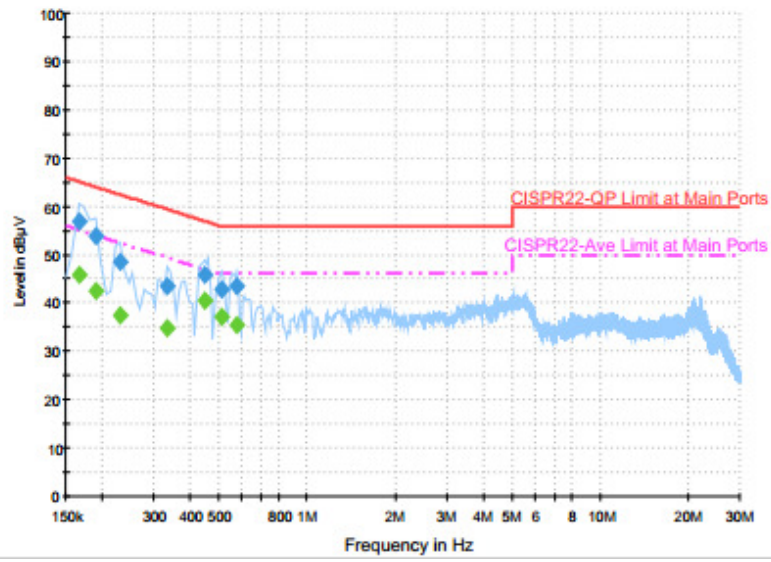
Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.166000	46.2	Off	L1	19.6	9.0	55.2
0.190000	42.4	Off	L1	19.6	11.6	54.0
0.222000	36.7	Off	L1	19.6	16.0	52.7
0.334000	34.0	Off	L1	19.6	15.4	49.4
0.454000	39.6	Off	L1	19.6	7.2	46.8
0.510000	37.1	Off	L1	19.6	8.9	46.0
0.566000	36.6	Off	L1	19.6	9.4	46.0





Test Mode :	Mode 1	Temperature :	24~25°C
Test Engineer :	Kai-Chun Chu	Relative Humidity :	51~52%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WLAN (5GHz) Link + Bluetooth Link + Camera (Rear) + USB HDD + Adapter + Micro SD + Micro USB Cable (Data Link with Notebook) + Battery + Earphone		



**Final Result : QuasiPeak**

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.166000	56.9	Off	N	19.6	8.3	65.2
0.190000	53.8	Off	N	19.6	10.2	64.0
0.230000	48.4	Off	N	19.6	14.0	62.4
0.334000	43.6	Off	N	19.6	15.8	59.4
0.446000	45.7	Off	N	19.6	11.2	56.9
0.510000	42.9	Off	N	19.6	13.1	56.0
0.574000	43.6	Off	N	19.6	12.4	56.0

**Final Result : Average**

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.166000	45.9	Off	N	19.6	9.3	55.2
0.190000	42.4	Off	N	19.6	11.6	54.0
0.230000	37.4	Off	N	19.6	15.0	52.4
0.334000	34.9	Off	N	19.6	14.5	49.4
0.446000	40.4	Off	N	19.6	6.5	46.9
0.510000	37.2	Off	N	19.6	8.8	46.0
0.574000	35.6	Off	N	19.6	10.4	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.

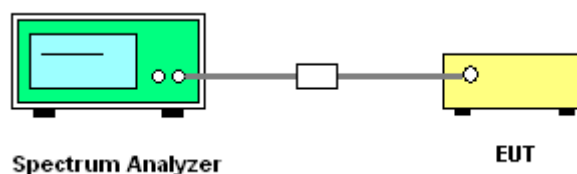
### 3.6.2 Measuring Instruments

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**

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.



## **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**

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.



## 4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Power Meter	Anritsu	ML2495A	1132003	300MHz~40GHz	Aug. 12, 2015	Jan. 04, 2016 ~ Jan. 14, 2016	Aug. 11, 2016	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	1126017	300MHz~40GHz	Aug. 12, 2015	Jan. 04, 2016 ~ Jan. 14, 2016	Aug. 11, 2016	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100057	9kHz-40GHz	Nov. 23, 2015	Jan. 04, 2016 ~ Jan. 14, 2016	Nov. 22, 2016	Conducted (TH05-HY)
Temperature Chamber	ESPEC	SU-241	92003713	-30°C ~95°C	Jun. 15, 2015	Jan. 04, 2016 ~ Jan. 14, 2016	Jun. 14, 2016	Conducted (TH05-HY)
Programmable Power Supply	GW Instek	PSS-2005	GEO821763	N/A	Nov. 13, 2015	Jan. 04, 2016 ~ Jan. 14, 2016	Nov. 12, 2016	Conducted (TH05-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Sep. 02, 2015	Jan. 06, 2016~ Jan. 11, 2016	Sep. 01, 2016	Radiation (03CH11-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Nov. 20, 2015	Jan. 06, 2016~ Jan. 11, 2016	Nov. 19, 2016	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1326	1GHz ~ 18GHz	Oct. 08, 2015	Jan. 06, 2016~ Jan. 11, 2016	Oct. 07, 2016	Radiation (03CH11-HY)
Preamplifier	Keysight	83017A	MY53270080	1GHz~26.5GHz	Nov. 19, 2015	Jan. 06, 2016~ Jan. 11, 2016	Nov. 18, 2016	Radiation (03CH11-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1902247	1GHz~18GHz	Jul. 01, 2015	Jan. 06, 2016~ Jan. 11, 2016	Jun. 30, 2016	Radiation (03CH11-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz ~ 44GHz	Sep. 24, 2015	Jan. 06, 2016~ Jan. 11, 2016	Sep. 23, 2016	Radiation (03CH11-HY)
EMI Test Receiver	Agilent	N9038A(MXE)	MY53290053	20Hz to 26.5GHz	Feb. 02, 2015	Jan. 06, 2016~ Jan. 11, 2016	Feb. 01, 2016	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Jan. 06, 2016~ Jan. 11, 2016	N/A	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0-360 degree	N/A	Jan. 06, 2016~ Jan. 11, 2016	N/A	Radiation (03CH11-HY)
Bilog Antenna	TESEQ	CBL 6111D	35414	30MHz to 1GHz	Nov. 17, 2015	Jan. 06, 2016~ Jan. 11, 2016	Nov. 16, 2016	Radiation (03CH11-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170576	18GHz ~ 40GHz	Apr. 20, 2015	Jan. 06, 2016~ Jan. 11, 2016	Apr. 19, 2016	Radiation (03CH11-HY)
Preamplifier	MITEQ	JS44-1800400 0-33-8P	1840917	18GHz ~ 40GHz	Jun. 02, 2015	Jan. 06, 2016~ Jan. 11, 2016	Jun. 01, 2016	Radiation (03CH11-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Jan. 19, 2016	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 26, 2015	Jan. 19, 2016	Aug. 25, 2016	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 02, 2015	Jan. 19, 2016	Dec. 01, 2016	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Dec. 14, 2015	Jan. 19, 2016	Dec. 13, 2016	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Jan. 08, 2016	Jan. 19, 2016	Jan. 07, 2017	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% ( $U = 2Uc(y)$ )	4.9
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## **Appendix A. Conducted Test Results**

Test Engineer:	Luffy Lin	Temperature:	21~25	°C
Test Date:	2016/01/04 ~ 2016/01/14	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)	26 dB Bandwidth (MHz)	6 dB Bandwidth (MHz)	6dB Bandwidth min. Limit (MHz)	Pass/Fail
11a	6M bps	1	149	5745	19.2	42	14.96	0.5	Pass
11a	6Mbps	1	157	5785	19.25	42	15.12	0.5	Pass
11a	6Mbps	1	165	5825	17.55	36.4	15.12	0.5	Pass
HT20	MCS 0	1	149	5745	20.1	41.3	15.12	0.5	Pass
HT20	MCS 0	1	157	5785	20.65	42.3	15.12	0.5	Pass
HT20	MCS 0	1	165	5825	19.8	41.5	15.12	0.5	Pass
HT40	MCS 0	1	151	5755	37.5	87.84	35.12	0.5	Pass
HT40	MCS 0	1	159	5795	37.6	87.84	35.2	0.5	Pass

**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
11a	6M bps	1	149	5745	0.70	12.98	30.00	2.64		Pass
11a	6Mbps	1	157	5785	0.70	12.87	30.00	2.64		Pass
11a	6Mbps	1	165	5825	0.70	11.18	30.00	2.64		Pass
HT20	MCS 0	1	149	5745	0.77	12.69	30.00	2.64		Pass
HT20	MCS 0	1	157	5785	0.77	12.90	30.00	2.64		Pass
HT20	MCS 0	1	165	5825	0.77	12.54	30.00	2.64		Pass
HT40	MCS 0	1	151	5755	1.42	12.18	30.00	2.64		Pass
HT40	MCS 0	1	159	5795	1.42	12.44	30.00	2.64		Pass

**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
11a	6M bps	1	149	5745	0.70	2.22	-2.19	30.00	2.64	Pass
11a	6Mbps	1	157	5785	0.70	2.22	-0.06	30.00	2.64	Pass
11a	6Mbps	1	165	5825	0.70	2.22	-3.00	30.00	2.64	Pass
HT20	MCS 0	1	149	5745	0.77	2.22	0.24	30.00	2.64	Pass
HT20	MCS 0	1	157	5785	0.77	2.22	-0.01	30.00	2.64	Pass
HT20	MCS 0	1	165	5825	0.77	2.22	0.72	30.00	2.64	Pass
HT40	MCS 0	1	151	5755	1.42	2.22	-3.13	30.00	2.64	Pass
HT40	MCS 0	1	159	5795	1.42	2.22	-2.68	30.00	2.64	Pass

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

Band IV										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stability (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6M bps	1	149	5745	5745.000	0.000	0.00	20	3.4	
11a	6M bps	1	149	5745	5745.000	0.000	0.00	20	4.2	
11a	6M bps	1	149	5745	5744.950	-0.050	-8.70	20	3.8	
11a	6M bps	1	149	5745	5745.000	0.000	0.00	-30	3.8	
11a	6M bps	1	149	5745	5745.000	0.000	0.00	50	3.8	



## Appendix B. Radiated Spurious Emission

<b>Test Engineer :</b>	Bill Kuo, Ken Wu and J.C. Liang	<b>Temperature :</b>	20~22°C
		<b>Relative Humidity :</b>	54~56%

**Band 4 - 5725~5850MHz**

**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 149 5745MHz		5713.64	58.44	-15.56	74	50.33	32.29	9.39	33.57	341	171	P	H	
		5724.44	69.54	-8.76	78.3	61.36	32.31	9.44	33.57	341	171	P	H	
		5714.6	45.56	-8.44	54	37.45	32.29	9.39	33.57	341	171	A	H	
	*	5745	101.51	-	-	93.3	32.34	9.44	33.57	341	171	P	H	
	*	5745	94.84	-	-	86.63	32.34	9.44	33.57	341	171	A	H	
														H
														H
														H
			5712.84	58.01	-15.99	74	49.9	32.29	9.39	33.57	237	293	P	V
			5723.48	74.94	-3.36	78.3	66.76	32.31	9.44	33.57	237	293	P	V
			5714.28	51.33	-2.67	54	43.22	32.29	9.39	33.57	237	293	A	V
	*		5745	106.92	-	-	98.71	32.34	9.44	33.57	237	293	P	V
	*		5745	100	-	-	91.79	32.34	9.44	33.57	237	293	A	V
														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		5693.16	47.55	-26.45	74	39.45	32.27	9.39	33.56	303	172	P	H
		5722.84	47.14	-31.16	78.3	38.96	32.31	9.44	33.57	303	172	P	H
		5685.8	39.62	-14.38	54	31.52	32.27	9.39	33.56	303	172	A	H
	*	5785	102.36	-	-	94.07	32.39	9.49	33.59	303	172	P	H
	*	5785	96.29	-	-	88	32.39	9.49	33.59	303	172	A	H
		5859.2	50.05	-28.25	78.3	41.62	32.51	9.54	33.62	303	172	P	H
		5888.64	49.28	-24.72	74	40.78	32.56	9.57	33.63	303	172	P	H
		5889.84	41	-13	54	32.5	32.56	9.57	33.63	303	172	A	H
		5712.6	48.8	-25.2	74	40.69	32.29	9.39	33.57	233	290	P	V
		5717.56	47.62	-30.68	78.3	39.49	32.31	9.39	33.57	233	290	P	V
		5685.08	41.26	-12.74	54	33.16	32.27	9.39	33.56	233	290	A	V
	*	5785	107.6	-	-	99.31	32.39	9.49	33.59	233	290	P	V
	*	5785	99.98	-	-	91.69	32.39	9.49	33.59	233	290	A	V
		5852.32	49.63	-28.67	78.3	41.22	32.48	9.54	33.61	233	290	P	V
		5866	49.55	-24.45	74	41.12	32.51	9.54	33.62	233	290	P	V
		5888.32	42.25	-11.75	54	33.75	32.56	9.57	33.63	233	290	A	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	*	5824	101.82	-	-	93.44	32.46	9.52	33.6	351	169	P	H	
	*	5824	94.21	-	-	85.83	32.46	9.52	33.6	351	169	A	H	
		5851.92	52.77	-25.53	78.3	44.36	32.48	9.54	33.61	351	169	P	H	
		5861.6	49.1	-24.9	74	40.67	32.51	9.54	33.62	351	169	P	H	
		5864.88	40.06	-13.94	54	31.63	32.51	9.54	33.62	351	169	A	H	
														H
														H
														H
	*	5825	105.45	-	-	97.07	32.46	9.52	33.6	230	291	P	V	
	*	5825	97.5	-	-	89.12	32.46	9.52	33.6	230	291	A	V	
		5850.96	55.09	-23.21	78.3	46.68	32.48	9.54	33.61	230	291	P	V	
		5872.96	49.51	-24.49	74	41.06	32.53	9.54	33.62	230	291	P	V	
		5860.8	41.75	-12.25	54	33.32	32.51	9.54	33.62	230	291	A	V	
														V
														V
														V
														V
<b>Remark</b>	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	42.86	-11.14	54	54.74	39.91	13.95	65.74	100	0	P	H
		17235	46.17	-27.83	74	52.3	41	16.95	64.08	100	0	P	H
													H
													H
		4786	59.43	-14.57	74	53.26	31.07	8.6	33.5	291	193	P	V
		4786	52.78	-1.22	54	46.61	31.07	8.6	33.5	291	193	A	V
		11490	41.44	-32.56	74	53.32	39.91	13.95	65.74	100	0	P	V
		17235	44.28	-29.72	74	50.41	41	16.95	64.08	100	0	P	V
802.11a CH 157 5785MHz		11570	41.72	-32.28	74	53.62	39.76	14	65.66	100	0	P	H
		17355	43.85	-30.15	74	49.69	41.35	17.03	64.22	100	0	P	H
													H
													H
		4822	60.94	-13.06	74	54.66	31.12	8.65	33.49	277	216	P	V
		4822	53.93	-0.07	54	47.65	31.12	8.65	33.49	277	216	A	V
		11570	41.71	-32.29	74	53.61	39.76	14	65.66	100	0	P	V
		17355	43.93	-30.07	74	49.77	41.35	17.03	64.22	100	0	P	V
802.11a CH 165 5825MHz		11650	42.3	-31.7	74	54.25	39.62	14.05	65.62	100	0	P	H
		17475	43.11	-30.89	74	48.67	41.7	17.1	64.36	100	0	P	H
													H
													H
		4852	57	-17	74	50.62	31.18	8.69	33.49	289	206	P	V
		4852	53.2	-0.8	54	46.82	31.18	8.69	33.49	289	206	A	V
		11650	41	-33	74	52.95	39.62	14.05	65.62	100	0	P	V
		17475	42.61	-31.39	74	48.17	41.7	17.1	64.36	100	0	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 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		5713.32	56.73	-17.27	74	48.62	32.29	9.39	33.57	341	171	P	H	
		5723.8	67.46	-10.84	78.3	59.28	32.31	9.44	33.57	341	171	P	H	
		5714.84	45.28	-8.72	54	37.17	32.29	9.39	33.57	341	171	A	H	
	*	5745	101.61	-	-	93.4	32.34	9.44	33.57	341	171	P	H	
	*	5745	95.06	-	-	86.85	32.34	9.44	33.57	341	171	A	H	
														H
														H
														H
			5714.92	58.75	-15.25	74	50.64	32.29	9.39	33.57	236	293	P	V
			5724.92	73.05	-5.25	78.3	64.87	32.31	9.44	33.57	236	293	P	V
			5715	50.18	-3.82	54	42.07	32.29	9.39	33.57	236	293	A	V
	*		5745	106.19	-	-	97.98	32.34	9.44	33.57	236	293	P	V
	*		5745	99.43	-	-	91.22	32.34	9.44	33.57	236	293	A	V
														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 )
802.11n HT20 CH 157 5785MHz		5688.6	47.19	-26.81	74	39.09	32.27	9.39	33.56	303	172	P	H
		5722.76	46.96	-31.34	78.3	38.78	32.31	9.44	33.57	303	172	P	H
		5685.72	39.65	-14.35	54	31.55	32.27	9.39	33.56	303	172	A	H
	*	5785	102.38	-	-	94.09	32.39	9.49	33.59	303	172	P	H
	*	5785	96.06	-	-	87.77	32.39	9.49	33.59	303	172	A	H
		5858.48	48.04	-30.26	78.3	39.61	32.51	9.54	33.62	303	172	P	H
		5888.16	49.41	-24.59	74	40.91	32.56	9.57	33.63	303	172	P	H
		5886.88	40.77	-13.23	54	32.3	32.53	9.57	33.63	303	172	A	H
		5713.96	48.91	-25.09	74	40.8	32.29	9.39	33.57	233	290	P	V
		5718.12	48.66	-29.64	78.3	40.53	32.31	9.39	33.57	233	290	P	V
		5685.08	41.39	-12.61	54	33.29	32.27	9.39	33.56	233	290	A	V
	*	5785	107.18	-	-	98.89	32.39	9.49	33.59	233	290	P	V
	*	5785	99.83	-	-	91.54	32.39	9.49	33.59	233	290	A	V
		5850.16	49.78	-28.52	78.3	41.37	32.48	9.54	33.61	233	290	P	V
		5883.44	49.3	-24.7	74	40.83	32.53	9.57	33.63	233	290	P	V
	5887.68	42.13	-11.87	54	33.63	32.56	9.57	33.63	233	290	A	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 )	
802.11n HT20 CH 165 5825MHz	*	5825	101.02	-	-	92.64	32.46	9.52	33.6	351	169	P	H	
	*	5825	95.02	-	-	86.64	32.46	9.52	33.6	351	169	A	H	
		5851.2	63.97	-14.33	78.3	55.56	32.48	9.54	33.61	351	169	P	H	
		5863.36	55.4	-18.6	74	46.97	32.51	9.54	33.62	351	169	P	H	
		5861.2	43.68	-10.32	54	36.25	32.51	9.54	33.62	351	169	A	H	
														H
														H
														H
	*	5825	106.12	-	-	97.74	32.46	9.52	33.6	230	291	P	V	
	*	5825	98.72	-	-	90.34	32.46	9.52	33.6	230	291	A	V	
		5850.48	60.53	-17.77	78.3	52.12	32.48	9.54	33.61	230	291	P	V	
		5862.4	53.26	-20.74	74	44.83	32.51	9.54	33.62	230	291	P	V	
		5860.08	43.72	-10.28	54	35.29	32.51	9.54	33.62	230	291	A	V	
														V
														V
													V	
<b>Remark</b>	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	41.88	-32.12	74	53.76	39.91	13.95	65.74	100	0	P	H
		17235	44.44	-29.56	74	50.57	41	16.95	64.08	100	0	P	H
													H
													H
		4786	57.62	-16.38	74	51.45	31.07	8.6	33.5	293	191	P	V
		4786	50.84	-3.16	54	44.67	31.07	8.6	33.5	293	191	A	V
		11490	41.8	-32.2	74	53.68	39.91	13.95	65.74	100	0	P	V
		17235	44.73	-29.27	74	50.86	41	16.95	64.08	100	0	P	V
802.11n HT20 CH 157 5785MHz		11570	41.25	-32.75	74	53.15	39.76	14	65.66	100	0	P	H
		17355	46.25	-27.75	74	52.09	41.35	17.03	64.22	100	0	P	H
													H
													H
		4822	54.86	-19.14	74	48.58	31.12	8.65	33.49	277	216	P	V
		4822	50.07	-3.93	54	43.79	31.12	8.65	33.49	277	216	A	V
		11570	42	-32	74	53.9	39.76	14	65.66	100	0	P	V
		17355	43.71	-30.29	74	49.55	41.35	17.03	64.22	100	0	P	V
802.11n HT20 CH 165 5825MHz		11650	41.83	-32.17	74	53.78	39.62	14.05	65.62	100	0	P	H
		17475	44.43	-29.57	74	49.99	41.7	17.1	64.36	100	0	P	H
													H
													H
		4852	57.98	-16.02	74	51.6	31.18	8.69	33.49	289	206	P	V
		4852	53.21	-0.79	54	46.83	31.18	8.69	33.49	289	206	A	V
		11650	41.26	-32.74	74	53.21	39.62	14.05	65.62	100	0	P	V
		17475	43.09	-30.91	74	48.65	41.7	17.1	64.36	100	0	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 (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 HT40 CH 151 5755MHz		5712.84	61.84	-6.46	68.3	53.73	32.29	9.39	33.57	342	170	P	H	
		5723.88	70.3	-8	78.3	62.12	32.31	9.44	33.57	342	170	P	H	
	*	5755	98.42	-	-	90.19	32.36	9.44	33.57	342	170	P	H	
		5755	91.62	-	-	83.39	32.36	9.44	33.57	342	170	A	H	
		5853.12	48.58	-29.72	78.3	40.17	32.48	9.54	33.61	342	170	P	H	
		5868.64	48.01	-20.29	68.3	39.58	32.51	9.54	33.62	342	170	P	H	
														H
														H
			5713.96	67.29	-1.01	68.3	59.18	32.29	9.39	33.57	244	289	P	V
			5723.8	74.38	-3.92	78.3	66.2	32.31	9.44	33.57	244	289	P	V
	*		5755	102.63	-	-	94.4	32.36	9.44	33.57	244	289	P	V
			5755	95.43	-	-	87.2	32.36	9.44	33.57	244	289	A	V
			5858.96	51.75	-26.55	78.3	43.32	32.51	9.54	33.62	244	289	P	V
			5860.24	51.76	-16.54	68.3	43.33	32.51	9.54	33.62	244	289	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 )
802.11n HT40 CH 159 5795MHz		5711.96	55.93	-18.07	74	47.82	32.29	9.39	33.57	332	171	P	H
		5718.6	57.22	-21.08	78.3	49.09	32.31	9.39	33.57	332	171	P	H
		5712.28	43.5	-10.5	54	35.39	32.29	9.39	33.57	332	171	A	H
	*	5795	99.13	-	-	90.82	32.41	9.49	33.59	332	171	P	H
	*	5795	92.81	-	-	84.5	32.41	9.49	33.59	332	171	A	H
		5852.24	61.4	-16.9	78.3	52.99	32.48	9.54	33.61	332	171	P	H
		5861.12	59.92	-14.08	74	51.49	32.51	9.54	33.62	332	171	P	H
		5860.16	46.59	-7.41	54	38.16	32.51	9.54	33.62	332	171	A	H
		5710.04	58.47	-15.53	74	50.36	32.29	9.39	33.57	234	289	P	V
		5720.92	61.25	-17.05	78.3	53.12	32.31	9.39	33.57	234	289	P	V
		5714.28	47.62	-6.38	54	39.51	32.29	9.39	33.57	234	289	A	V
	*	5795	105.17	-	-	96.86	32.41	9.49	33.59	234	289	P	V
	*	5795	93.81	-	-	85.5	32.41	9.49	33.59	234	289	A	V
		5857.04	62.76	-15.54	78.3	54.32	32.51	9.54	33.61	234	289	P	V
		5865.2	61.86	-12.14	74	53.43	32.51	9.54	33.62	234	289	P	V
	5869.04	48.76	-5.24	54	40.33	32.51	9.54	33.62	234	289	A	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	42.74	-31.26	74	54.59	39.9	13.95	65.7	100	0	P	H
		17265	41.48	-26.82	68.3	47.55	41.1	16.95	64.12	100	0	P	H
													H
													H
		4798	54.79	-19.21	74	48.61	31.07	8.6	33.49	271	197	P	V
		4798	50.47	-3.53	54	44.29	31.07	8.6	33.49	271	197	A	V
		11510	44.14	-29.86	74	55.99	39.9	13.95	65.7	100	0	P	V
		17265	41.7	-26.6	68.3	47.77	41.1	16.95	64.12	100	0	P	V
802.11n HT40 CH 159 5795MHz		11590	41.84	-32.16	74	53.76	39.73	14	65.65	100	0	P	H
		17385	42.64	-31.36	74	48.42	41.45	17.03	64.26	100	0	P	H
													H
													H
		4828	55.25	-18.75	74	48.97	31.12	8.65	33.49	341	191	P	V
		4828	50.68	-3.32	54	44.4	31.12	8.65	33.49	341	191	A	V
		11590	42.15	-31.85	74	54.07	39.73	14	65.65	100	0	P	V
		17385	41.96	-32.04	74	47.74	41.45	17.03	64.26	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Emission below 1GHz

5GHz WIFI 802.11a (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 )	
5GHz 802.11a LF		76.71	29.34	-10.66	40	46.86	13.23	1.04	31.79	357	144	P	H	
		123.96	32.4	-11.1	43.5	45.08	17.82	1.28	31.78	-	-	P	H	
		150.42	32.6	-10.9	43.5	45.52	17.4	1.46	31.78	-	-	P	H	
		345.5	31.59	-14.41	46	40.23	20.97	2.17	31.78	-	-	P	H	
		575.8	31	-15	46	34.84	25.27	2.89	32	-	-	P	H	
		806.1	34.25	-11.75	46	34.37	28.37	3.4	31.89	-	-	P	H	
														H
														H
														H
														H
														H
														H
			38.64	38.15	-1.85	40	48.44	20.86	0.67	31.82	279	351	P	V
			113.97	25.91	-17.59	43.5	38.98	17.43	1.28	31.78	-	-	P	V
			221.16	25.99	-20.01	46	39.71	16.27	1.79	31.78	-	-	P	V
			345.5	31.2	-14.8	46	39.84	20.97	2.17	31.78	-	-	P	V
			575.8	31.61	-14.39	46	35.45	25.27	2.89	32	-	-	P	V
			806.1	31.61	-14.39	46	31.73	28.37	3.4	31.89	-	-	P	V
														V
														V
													V	
													V	
													V	
													V	
Remark	1. No other spurious found. 2. 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.
!	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													
2412MHz		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

- 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 Plots

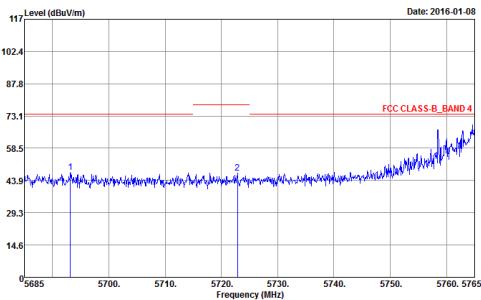
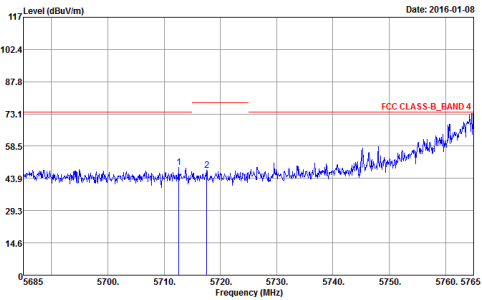
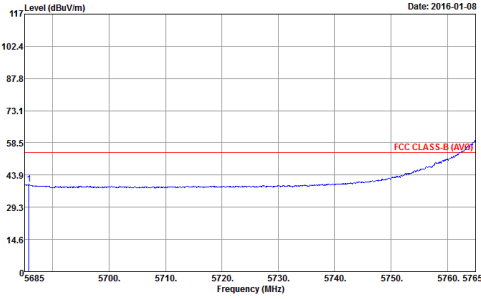
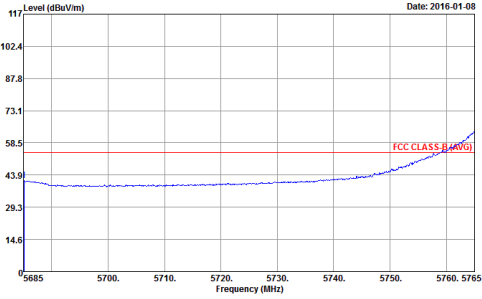
## Note symbol

-L	Low channel location
-R	High channel location

### Band 4 - 5725~5850MHz WIFI 802.11a (Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
1	Horizontal	Vertical
<b>Peak</b>	<p>Site : 03CH11-HY Condition : FCC CLASS-B_BAND 4 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 5D2503 Mode : 26</p>	<p>Site : 03CH11-HY Condition : FCC CLASS-B_BAND 4 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 5D2503 Mode : 26</p>
<b>Avg.</b>	<p>Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 5D2503 Mode : 26</p>	<p>Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 5D2503 Mode : 26</p>

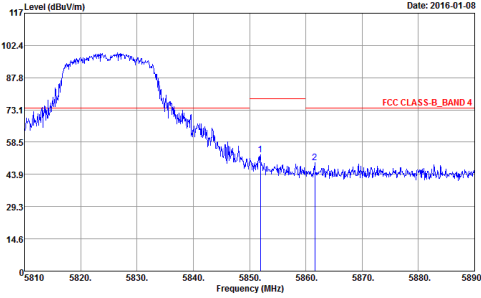
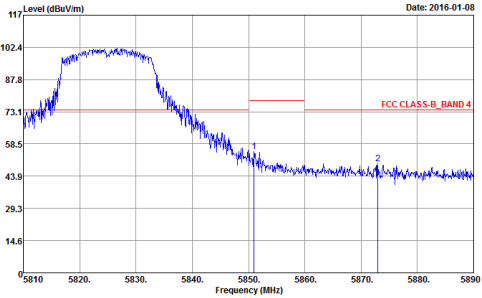
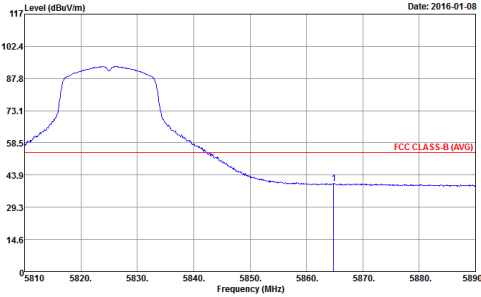
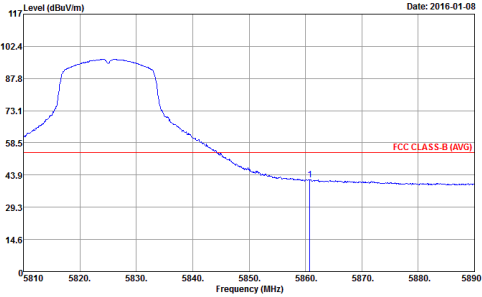


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz - L	
1	Horizontal	Vertical
Peak	 <p>Level (dBuV/m) vs Frequency (MHz) plot for Horizontal orientation. The y-axis ranges from 14.6 to 117 dBuV/m, and the x-axis ranges from 5685 to 5765 MHz. A red horizontal line indicates the FCC CLASS-B_BAND 4 limit at approximately 73.1 dBuV/m. The blue signal line shows a rising trend towards the end of the band, with two peaks labeled '1' and '2'.</p> <p>Site : 03CH11-HY            Condition : FCC CLASS-B_BAND 4 3m HORN 9120D-HF HORIZONTAL            RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : 5D2503            Mode : 27</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 5685 to 5765 MHz. A red horizontal line indicates the FCC CLASS-B_BAND 4 limit at approximately 73.1 dBuV/m. The blue signal line shows a rising trend towards the end of the band, with two peaks labeled '1' and '2'.</p> <p>Site : 03CH11-HY            Condition : FCC CLASS-B_BAND 4 3m HORN 9120D-HF VERTICAL            RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : 5D2503            Mode : 27</p>
Avg.	 <p>Level (dBuV/m) vs Frequency (MHz) plot for Horizontal orientation showing the average signal. The y-axis ranges from 14.6 to 117 dBuV/m, and the x-axis ranges from 5685 to 5765 MHz. A red horizontal line indicates the FCC CLASS-B (AVG) limit at approximately 58.5 dBuV/m. The blue signal line shows a rising trend towards the end of the band.</p> <p>Site : 03CH11-HY            Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL            RBW:1000.000KHz VBW:1.000KHz SWT:Auto            Detector : Peak            Project : 5D2503            Mode : 27</p>	 <p>Level (dBuV/m) vs Frequency (MHz) plot for Vertical orientation showing the average signal. The y-axis ranges from 14.6 to 117 dBuV/m, and the x-axis ranges from 5685 to 5765 MHz. A red horizontal line indicates the FCC CLASS-B (AVG) limit at approximately 58.5 dBuV/m. The blue signal line shows a rising trend towards the end of the band.</p> <p>Site : 03CH11-HY            Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL            RBW:1000.000KHz VBW:1.000KHz SWT:Auto            Detector : Peak            Project : 5D2503            Mode : 27</p>



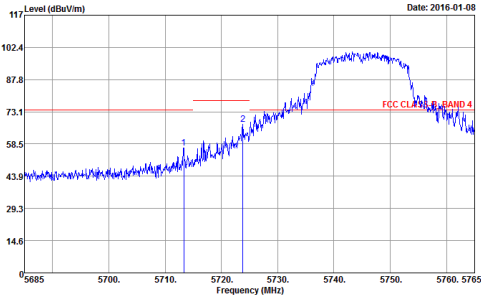
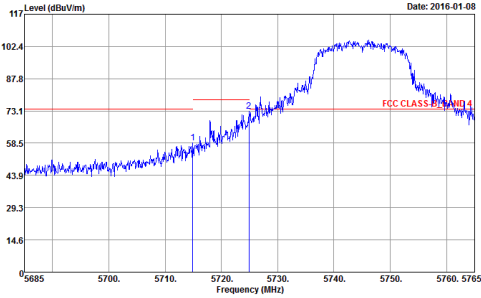
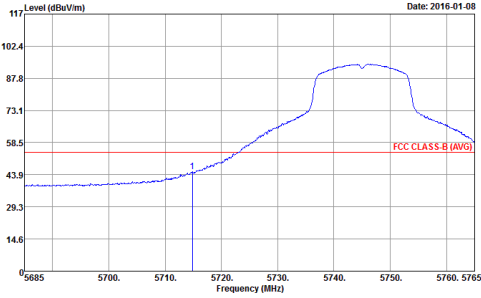
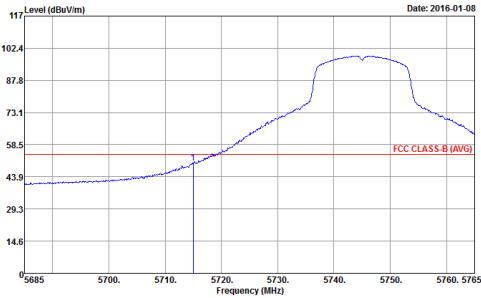
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz - R	
1	Horizontal	Vertical
Peak	<p>Site : 03CH11-HY            Condition : FCC CLASS-B_BAND 4 3m HORN 9120D-HF HORIZONTAL            Detector : Peak            Project : 5D2503            Mode : 27</p>	<p>Site : 03CH11-HY            Condition : FCC CLASS-B_BAND 4 3m HORN 9120D-HF VERTICAL            Detector : Peak            Project : 5D2503            Mode : 27</p>
Avg.	<p>Site : 03CH11-HY            Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL            Detector : Peak            Project : 5D2503            Mode : 27</p>	<p>Site : 03CH11-HY            Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL            Detector : Peak            Project : 5D2503            Mode : 27</p>



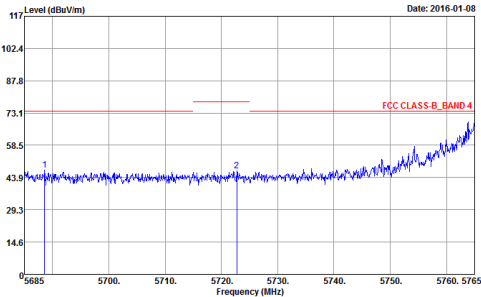
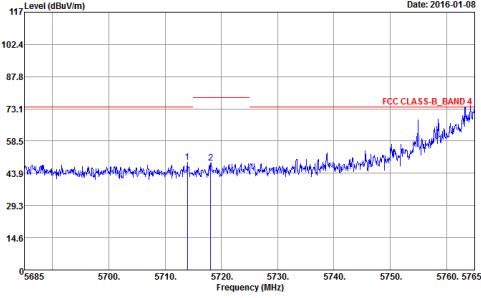
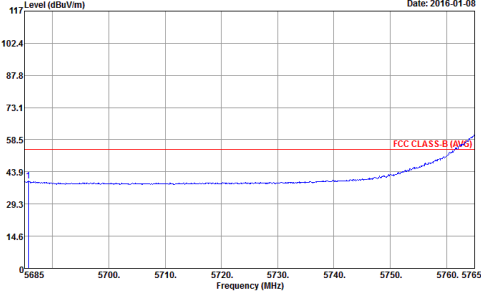
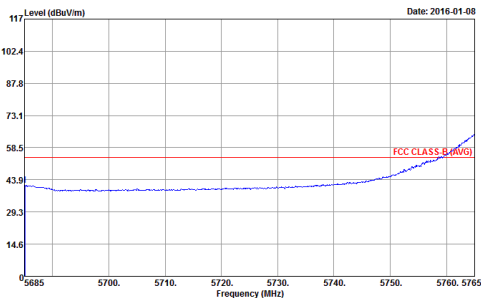
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
1	Horizontal	Vertical
Peak	 <p>Site : 03CH11-HY            Condition : FCC CLASS-B_BAND 4 3m HORN 9120D-HF HORIZONTAL            RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : FR 5D2503            Mode : 28            Setting : 17000</p>	 <p>Site : 03CH11-HY            Condition : FCC CLASS-B_BAND 4 3m HORN 9120D-HF VERTICAL            RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : FR 5D2503            Mode : 28            Setting : 17000</p>
Avg.	 <p>Site : 03CH11-HY            Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL            RBW:1000.000KHz VBW:1.000KHz SWT:Auto            Detector : Peak            Project : FR 5D2503            Mode : 28            Setting : 17000</p>	 <p>Site : 03CH11-HY            Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL            RBW:1000.000KHz VBW:1.000KHz SWT:Auto            Detector : Peak            Project : FR 5D2503            Mode : 28            Setting : 17000</p>



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

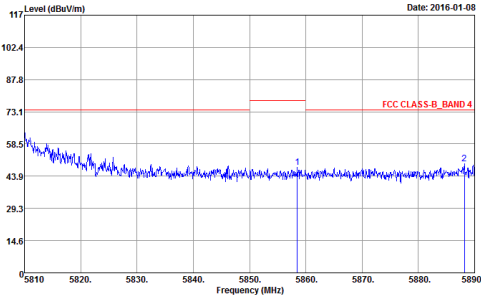
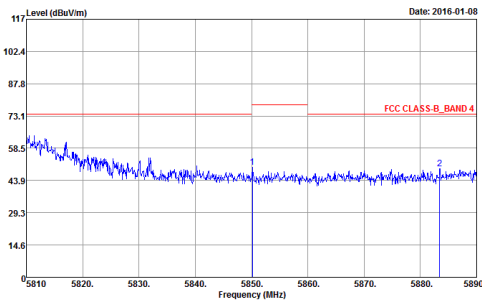
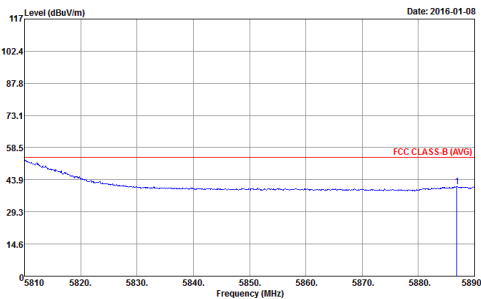
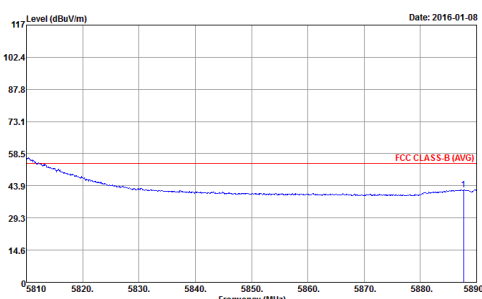
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1	Horizontal	Vertical
Peak	 <p>Site : 03CH11-HY Condition : FCC CLASS-B_BAND 4 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 5D2503 Mode : 29</p>	 <p>Site : 03CH11-HY Condition : FCC CLASS-B_BAND 4 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 5D2503 Mode : 29</p>
Avg.	 <p>Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL Detector : Peak Project : 5D2503 Mode : 29</p>	 <p>Site : 03CH11-HY Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL Detector : Peak Project : 5D2503 Mode : 29</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz - L	
1	Horizontal	Vertical
Peak	 <p>Site : 03CH11-HY            Condition : FCC CLASS-B_BAND 4 3m HORN 9120D-HF HORIZONTAL            Detector : Peak            Project : 5D2503            Mode : 30</p>	 <p>Site : 03CH11-HY            Condition : FCC CLASS-B_BAND 4 3m HORN 9120D-HF VERTICAL            Detector : Peak            Project : 5D2503            Mode : 30</p>
Avg.	 <p>Site : 03CH11-HY            Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL            Detector : Peak            Project : 5D2503            Mode : 30</p>	 <p>Site : 03CH11-HY            Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL            Detector : Peak            Project : 5D2503            Mode : 30</p>





WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz - R	
1	Horizontal	Vertical
Peak	 <p>Site : 03CH11-HY            Condition : FCC CLASS-B_BAND 4 3m HORN 9120D-HF HORIZONTAL            RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : 5D2503            Mode : 30</p>	 <p>Site : 03CH11-HY            Condition : FCC CLASS-B_BAND 4 3m HORN 9120D-HF VERTICAL            RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : 5D2503            Mode : 30</p>
Avg.	 <p>Site : 03CH11-HY            Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL            RBW:1000.000KHz VBW:1000KHz SWT:Auto            Detector : Peak            Project : 5D2503            Mode : 30</p>	 <p>Site : 03CH11-HY            Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL            RBW:1000.000KHz VBW:1000KHz SWT:Auto            Detector : Peak            Project : 5D2503            Mode : 30</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1	Horizontal	Vertical
<p><b>Peak</b></p>	<p>Site : 03CH11-HY            Condition : FCC CLASS-B_BAND 4 3m HORN 9120D-HF HORIZONTAL            RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : 5D2503            Mode : 31</p>	<p>Site : 03CH11-HY            Condition : FCC CLASS-B_BAND 4 3m HORN 9120D-HF VERTICAL            RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : 5D2503            Mode : 31            Setting : 18500</p>
<p><b>Avg.</b></p>	<p>Site : 03CH11-HY            Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL            RBW:1000.000KHz VBW:1.000KHz SWT:Auto            Detector : Peak            Project : 5D2503            Mode : 31</p>	<p>Site : 03CH11-HY            Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL            RBW:1000.000KHz VBW:1.000KHz SWT:Auto            Detector : Peak            Project : 5D2503            Mode : 31            Setting : 18500</p>

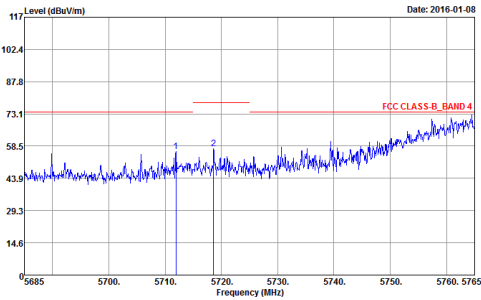
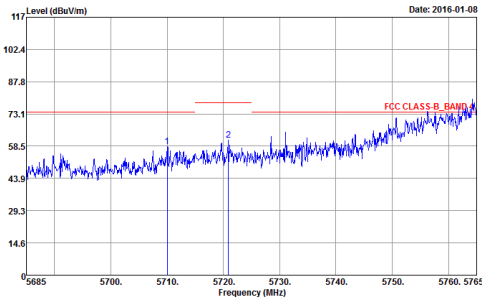
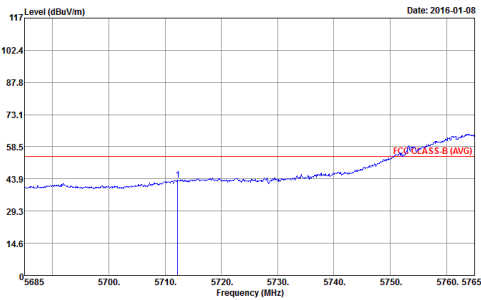
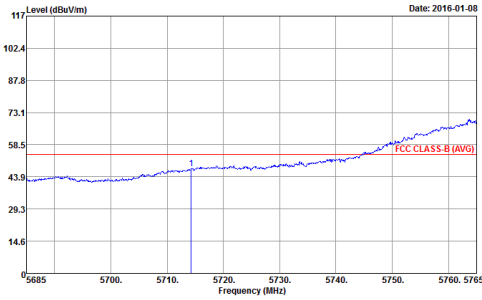


**Band 4 5725~5850MHz**  
**WIFI 802.11n HT40 (Band Edge @ 3m)**

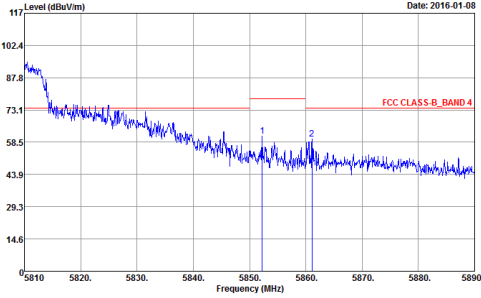
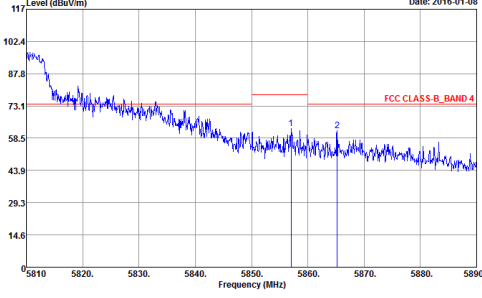
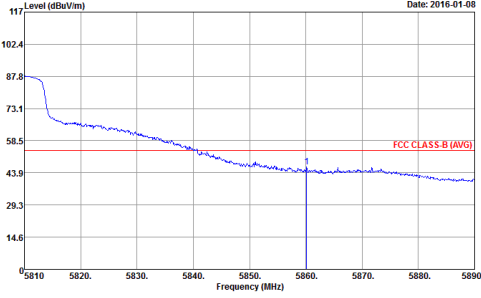
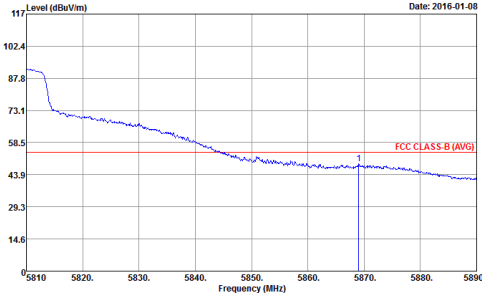
WIFI	<b>Band 4 5725~5850MHz Band Edge @ 3m</b>	
ANT	<b>802.11n HT40 CH151 5755MHz - L</b>	
1	<b>Horizontal</b>	<b>Vertical</b>
<b>Peak</b>	<p>Site : 03CH11-HY Condition : FCC PART 15E_BAND4 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 5D2503 Mode : 32 Setting : 18500           : 68.3_78.3</p>	<p>Site : 03CH11-HY Condition : FCC PART 15E_BAND4 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 5D2503 Mode : 32 Setting : 18500           : 68.3_78.3</p>

WIFI	<b>Band 4 5725~5850MHz Band Edge @ 3m</b>	
ANT	<b>802.11n HT40 CH151 5755MHz - R</b>	
1	<b>Horizontal</b>	<b>Vertical</b>
<b>Peak</b>	<p>Site : 03CH11-HY Condition : FCC PART 15E_BAND4 3m HORN 9120D-HF HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 5D2503 Mode : 32 Setting : 18500           : 68.3_78.3</p>	<p>Site : 03CH11-HY Condition : FCC PART 15E_BAND4 3m HORN 9120D-HF VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 5D2503 Mode : 32 Setting : 18500           : 68.3_78.3</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz - L	
1	Horizontal	Vertical
Peak	 <p>Site : 03CH11-HY            Condition : FCC CLASS-B_BAND 4 3m HORN 9120D-HF HORIZONTAL            Detector : Peak            Project : 5D2503            Mode : 33            Setting : 20000</p>	 <p>Site : 03CH11-HY            Condition : FCC CLASS-B_BAND 4 3m HORN 9120D-HF VERTICAL            Detector : Peak            Project : 5D2503            Mode : 33            Setting : 20000</p>
Avg.	 <p>Site : 03CH11-HY            Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL            Detector : Peak            Project : 5D2503            Mode : 33            Setting : 20000</p>	 <p>Site : 03CH11-HY            Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL            Detector : Peak            Project : 5D2503            Mode : 33            Setting : 20000</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz - R	
1	Horizontal	Vertical
Peak	 <p>Site : 03CH11-HY            Condition : FCC CLASS-B_BAND 4 3m HORN 9120D-HF HORIZONTAL            RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : 5D2503            Mode : 33            Setting : 20000</p>	 <p>Site : 03CH11-HY            Condition : FCC CLASS-B_BAND 4 3m HORN 9120D-HF VERTICAL            RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : 5D2503            Mode : 33            Setting : 20000</p>
Avg.	 <p>Site : 03CH11-HY            Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF HORIZONTAL            RBW:1000.000KHz VBW:3.000KHz SWT:Auto            Detector : Peak            Project : 5D2503            Mode : 33            Setting : 20000</p>	 <p>Site : 03CH11-HY            Condition : FCC CLASS-B (AVG) 3m HORN 9120D-HF VERTICAL            RBW:1000.000KHz VBW:3.000KHz SWT:Auto            Detector : Peak            Project : 5D2503            Mode : 33            Setting : 20000</p>



**Band 4 - 5725~5850MHz**  
**WIFI 802.11a (Harmonic @ 3m)**

WIFI	<b>Band 4 5725~5850MHz Harmonic @ 3m</b>	
ANT	<b>802.11a CH149 5745MHz</b>	
1	<b>Horizontal</b>	<b>Vertical</b>
Peak Avg.	<p>Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 HORIZONTAL Detector : Peak Project : 5D2503 Mode : 26</p>	<p>Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 VERTICAL Detector : Peak Project : 5D2503 Mode : 26</p>

WIFI	<b>Band 4 5725~5850MHz Harmonic @ 3m</b>	
ANT	<b>802.11a CH157 5785MHz</b>	
1	<b>Horizontal</b>	<b>Vertical</b>
Peak Avg.	<p>Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 HORIZONTAL Detector : Peak Project : 5D2503 Mode : 27 setting : 20000</p>	<p>Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 VERTICAL Detector : Peak Project : 5D2503 Mode : 27 setting : 20000</p>



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH165 5825MHz	
1	Horizontal	Vertical
<b>Peak</b> <b>Avg.</b>	<p>Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 HORIZONTAL Detector : Peak Project : FR 5D2503 Mode : 28 Setting : 17500</p>	<p>Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 VERTICAL Detector : Peak Project : FR 5D2503 Mode : 28 Setting : 17500</p>



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

WIFI	<b>Band 4 5725~5850MHz Harmonic @ 3m</b>	
ANT	<b>802.11n HT20 CH149 5745MHz</b>	
1	<b>Horizontal</b>	<b>Vertical</b>
Peak Avg.	<p>Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 HORIZONTAL Detector : Peak Project : 5D2503 Mode : 29</p>	<p>Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 VERTICAL Detector : Peak Project : 5D2503 Mode : 29</p>

WIFI	<b>Band 4 5725~5850MHz Harmonic @ 3m</b>	
ANT	<b>802.11n HT20 CH157 5785MHz</b>	
1	<b>Horizontal</b>	<b>Vertical</b>
Peak Avg.	<p>Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 HORIZONTAL Detector : Peak Project : 5D2503 Mode : 30 setting : 20000</p>	<p>Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 VERTICAL Detector : Peak Project : 5D2503 Mode : 30 setting : 20000</p>





WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 HORIZONTAL Detector : Peak Project : 5D2503 Mode : 31 Setting : 18500</p>	<p>Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 VERTICAL Detector : Peak Project : 5D2503 Mode : 31 Setting : 18500</p>



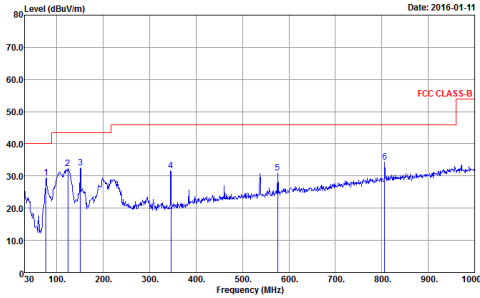
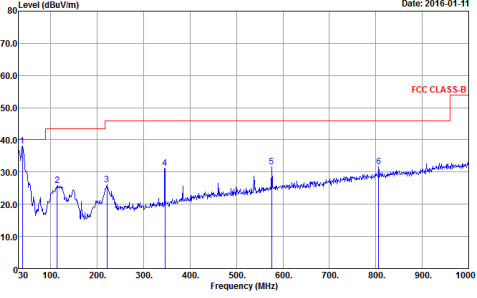
**Band 4 5725~5850MHz**  
**WIFI 802.11n HT40 (Harmonic @ 3m)**

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH11-HY Condition : FCC PART 15E_BAND4 3m 9170 SHF HORM_150809 HORIZONTAL Detector : Peak Project : 5D2503 Mode : 32</p>	<p>Site : 03CH11-HY Condition : FCC PART 15E_BAND4 3m 9170 SHF HORM_150809 VERTICAL Detector : Peak Project : 5D2503 Mode : 32</p>

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 HORIZONTAL Detector : Peak Project : 5D2503 Mode : 33</p>	<p>Site : 03CH11-HY Condition : FCC CLASS-B 3m 9170 SHF HORM_150809 VERTICAL Detector : Peak Project : 5D2503 Mode : 33</p>



Emission below 1GHz  
5GHz WIFI 802.11a (LF)

WIFI	5GHz 5725~5850MHz	
ANT	802.11a LF	
1	Horizontal	Vertical
QP / Peak	 <p>Site : 03CH11-HY Condition : FCC CLASS-B 3m BI-LO6 6111D-LF_ETC HORIZONTAL Detector : Peak Project : FR 5D2503 Mode : 35</p>	 <p>Site : 03CH11-HY Condition : FCC CLASS-B 3m BI-LO6 6111D-LF_ETC VERTICAL Detector : Peak Project : FR 5D2503 Mode : 35</p>