



# FCC RF Test Report

**APPLICANT** : Aava Mobile Oy  
**EQUIPMENT** : INARI6 SHORT FLIP  
**BRAND NAME** : AAVA  
**MODEL NAME** : INARI6 SHORT FLIP  
**FCC ID** : 2ABVH-INARI61  
**STANDARD** : FCC Part 15 Subpart E §15.407  
**CLASSIFICATION** : (NII) Unlicensed National Information Infrastructure

The product was received on Feb. 09, 2018 and testing was completed on Mar. 23, 2018. 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.**

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FCC ID: 2ABVH-INARI61

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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 Modification of EUT ..... 5

    1.5 Testing Location ..... 6

    1.6 Applicable Standards ..... 6

**2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST ..... 7**

    2.1 Carrier Frequency and Channel ..... 7

    2.2 Test Mode ..... 8

    2.3 Connection Diagram of Test System ..... 9

    2.4 Support Unit used in test configuration and system ..... 9

    2.5 EUT Operation Test Setup ..... 10

    2.6 Measurement Results Explanation Example ..... 10

**3 TEST RESULT ..... 11**

    3.1 6dB and 26dB and 99% Occupied Bandwidth Measurement ..... 11

    3.2 Maximum Conducted Output Power Measurement ..... 14

    3.3 Power Spectral Density Measurement ..... 15

    3.4 Unwanted Emissions Measurement ..... 18

    3.5 AC Conducted Emission Measurement ..... 24

    3.6 Automatically Discontinue Transmission ..... 26

    3.7 Antenna Requirements ..... 27

**4 LIST OF MEASURING EQUIPMENT ..... 28**

**5 UNCERTAINTY OF EVALUATION ..... 29**

**APPENDIX A. CONDUCTED TEST RESULTS**

**APPENDIX B. AC CONDUCTED EMISSION TEST RESULT**

**APPENDIX C. RADIATED SPURIOUS EMISSION**

**APPENDIX D. RADIATED SPURIOUS EMISSION PLOTS**

**APPENDIX E. DUTY CYCLE PLOTS**

**APPENDIX F. SETUP PHOTOGRAPHS**



### REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR820904F	Rev. 01	Initial issue of report	Apr. 10, 2018



### 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	15.407(b)(4)(i) & 15.209(a)	Pass	Under limit 6.23 dB at 5640.000 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 13.44 dB at 13.558 MHz
3.6	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.7	15.203 & 15.407(a)	Antenna Requirement	N/A	Pass	-



# 1 General Description

## 1.1 Applicant

Aava Mobile Oy  
NAHKATEHTAANKATU 2 90130 OULU FINLAND

## 1.2 Manufacturer

Aava Mobile Oy  
NAHKATEHTAANKATU 2 90130 OULU FINLAND

## 1.3 Product Feature of Equipment Under Test

Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n, Wi-Fi 5GHz 802.11a/n, NFC, and GNSS

Product Specification subjective to this standard	
Antenna Type	WLAN: Ceramic Antenna Bluetooth: Ceramic Antenna GPS / Glonass: Ceramic Antenna NFC: Ferrite Antenna

### <Sample Information>

Sample 1	Camera + BCR (BCR= bar code reader)
Sample 2	BCR only
Sample 3	Camera only
Sample 4	No Camera + No BCR

Remark: All tests were performed with Sample 1.

## 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. TW1190 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 2014 requirement.

### 1.6 Applicable Standards

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

- ♦ FCC Part 15 Subpart E
- ♦ FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- ♦ FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ♦ 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

- a. 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: conduction emission (150 kHz to 30 MHz), radiation 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 (Z plane) were recorded in this report.
- b. AC power line Conducted Emission was tested under maximum output power.

### 2.1 Carrier Frequency and Channel

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

**Note:** The above Frequency and Channel in "\*" were 802.11n HT40 and 802.11ac VHT40.



## 2.2 Test Mode

Final test modes are considering the modulation and worse data rates as below table.

### MIMO Mode

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 + NFC On + Bar Code Reader + USB Cable Type C (Charging from Adapter)
--------------------------------------	--

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



### 2.3 Connection Diagram of Test System



### 2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
2.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8m
3.	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



## 2.5 EUT Operation Test Setup

The RF test items, utility “WLANCONTR OLLER-Shortcut Tool” was installed in Notebook which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.

## 2.6 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 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

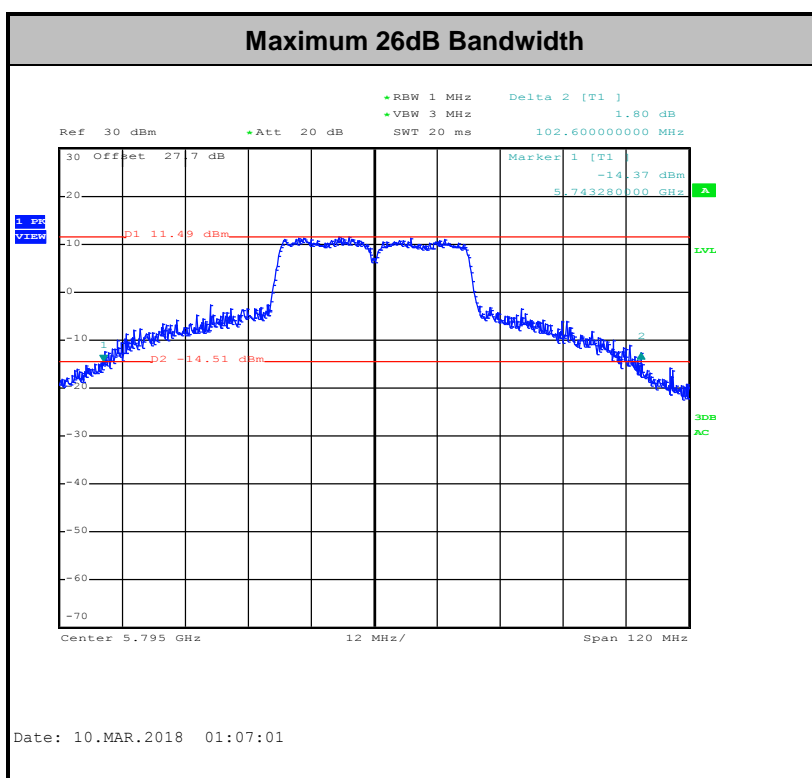
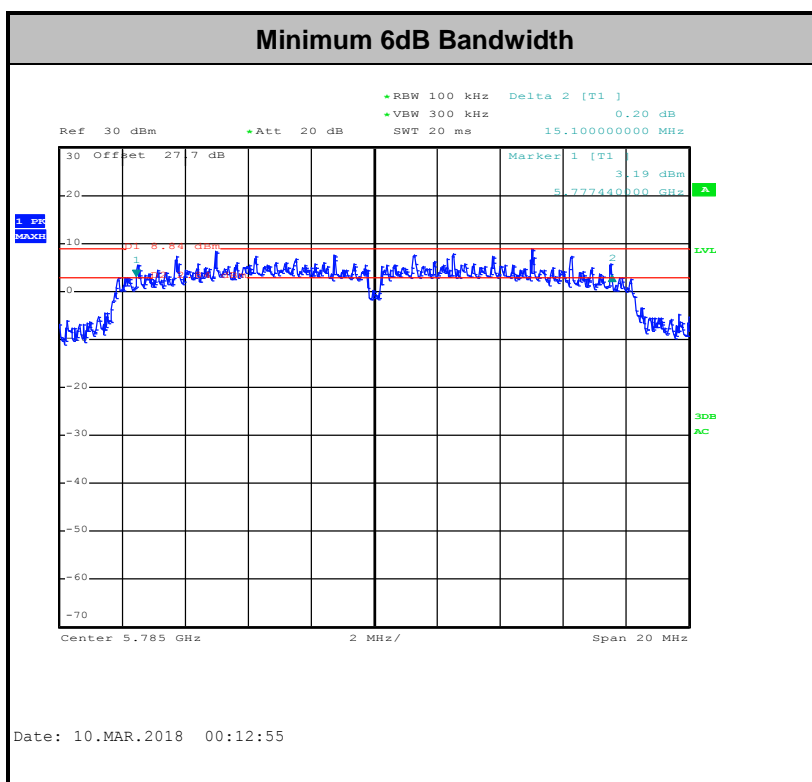
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section C) Emission bandwidth for the band 5.725-5.85GHz
2. Set RBW = 100kHz.
3. Set the VBW  $\geq 3 \times$  RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 6 dB down from the peak of the emission.
7. Measure and record the results in the test report.

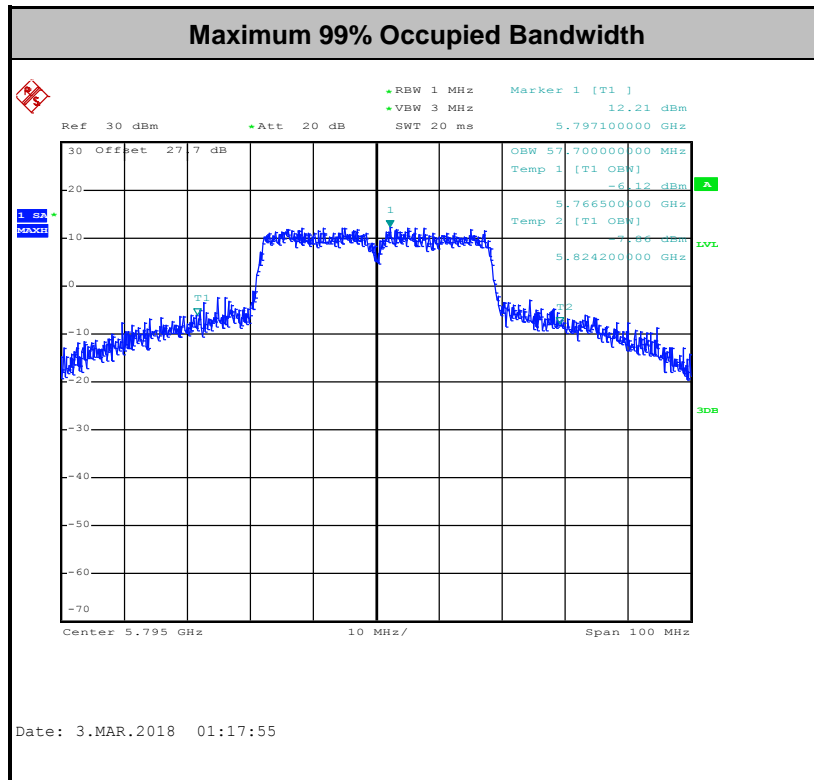
##### 3.1.4 Test Setup



##### 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.

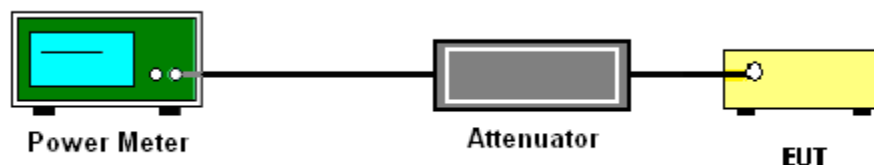
### 3.2.3 Test Procedures

The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

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 v02r01. 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).

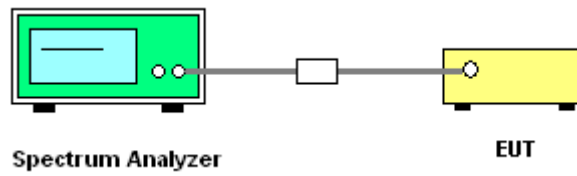
- Measure the duty cycle.
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 300 kHz.
- Set VBW  $\geq$  1 MHz.
- Number of points in sweep  $\geq$  2 Span / RBW.
- Sweep time = auto.
- Detector = RMS
- Trace average at least 100 traces in power averaging mode.
- Add  $10 \log(500\text{kHz}/\text{RBW})$  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.

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

Method (c): Measure and add  $10 \log(N_{\text{ANT}})$  dB.

With this technique, spectrum measurements are performed at each output of the device, but rather than summing the spectra or the spectral peaks across the outputs, the quantity  $10 \log(N_{\text{ANT}})$  dB is added to each spectrum value before comparing to the emission limit. The addition of  $10 \log(N_{\text{ANT}})$  dB serves to apportion the emission limit among the  $N_{\text{ANT}}$  outputs so that each output is permitted to contribute no more than  $1/N_{\text{ANT}}^{\text{th}}$  of the PSD limit.

### 3.3.4 Test Setup

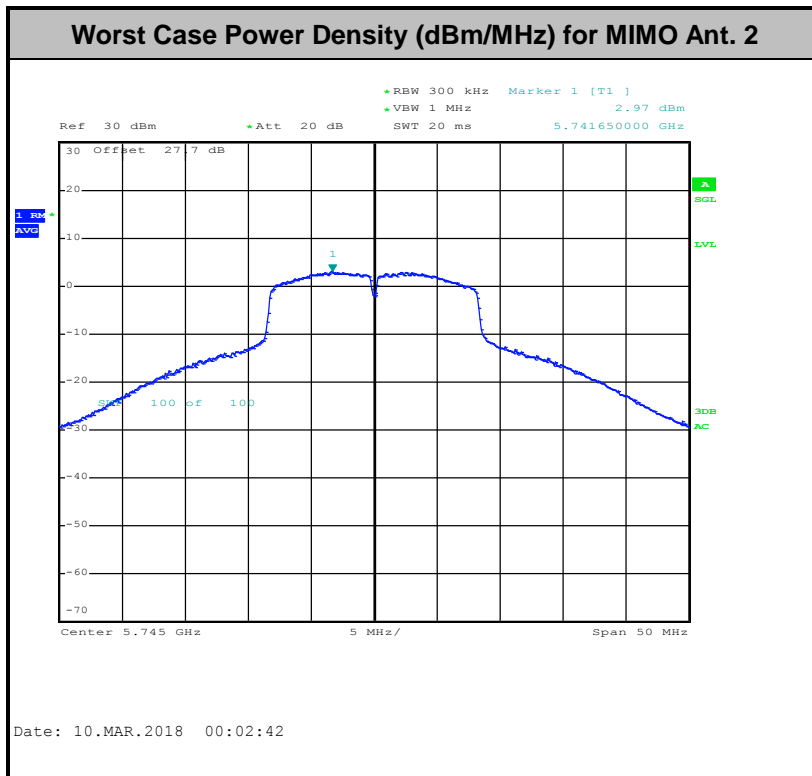
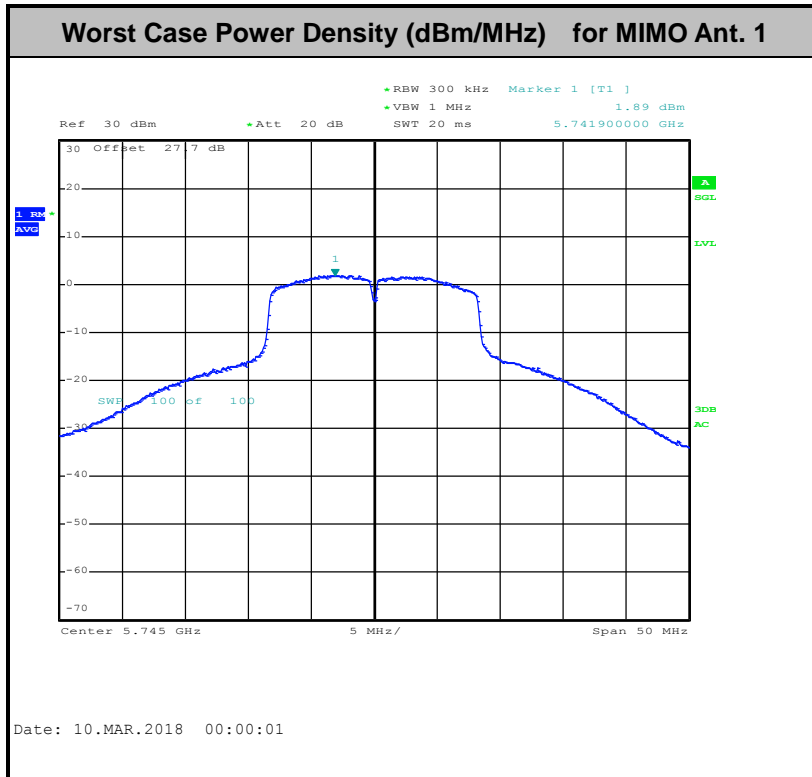






### 3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.





### 3.4 Unwanted Emissions Measurement

This section is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement.

#### 3.4.1 Limit of Unwanted Emissions

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

15.407(b)(4)(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

(2) Unwanted spurious emissions fallen in restricted bands shall comply with the general field strength limits 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 D02 v02r01 G)2)c)

- (i) Section 15.407(b)(1) to (b)(3) specify the unwanted emission limits for the U-NII-1 and U-NII-2 bands. As specified, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz.<sup>3</sup>
- (ii) Section 15.407(b)(4) specifies the unwanted emission limit for the U-NII-3 band. A band emissions mask is specified in Section 15.407(b)(4)(i). The emission limits are in terms of a Peak detector. An alternative to the band emissions mask is specified in Section 15.407(b)(4)(ii). The alternative limits are based on the highest antenna gain specified in the filing. There are also marketing and importation restrictions for the devices using the alternative limit.<sup>4</sup>

**Note 3:** An out-of-band emission that complies with both the average and peak limits of Section 15.209 is not required to satisfy the -27 dBm/MHz peak emission limit.

**Note 4:** Only devices with antenna gains of 10 dBi or less may be approved using the emission limits specified in Section 15.247(d) till March 2, 2018; all other devices operating in this band must use the mask specified in Section 15.407(b)(4)(i).

### 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 v02r01. 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  $\geq$  3 MHz
- Detector = Peak
- Sweep time = auto
- Trace mode = max hold

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

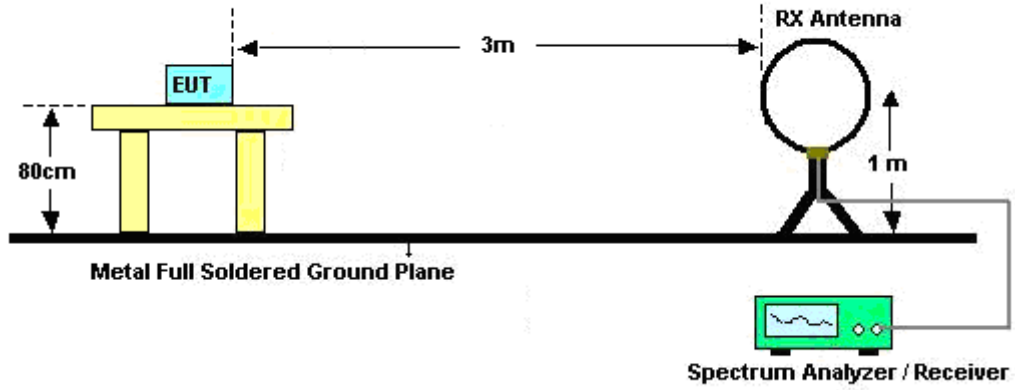
- RBW = 1 MHz
- VBW = 10 Hz, when duty cycle is no less than 98 percent.
- VBW  $\geq$  1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.



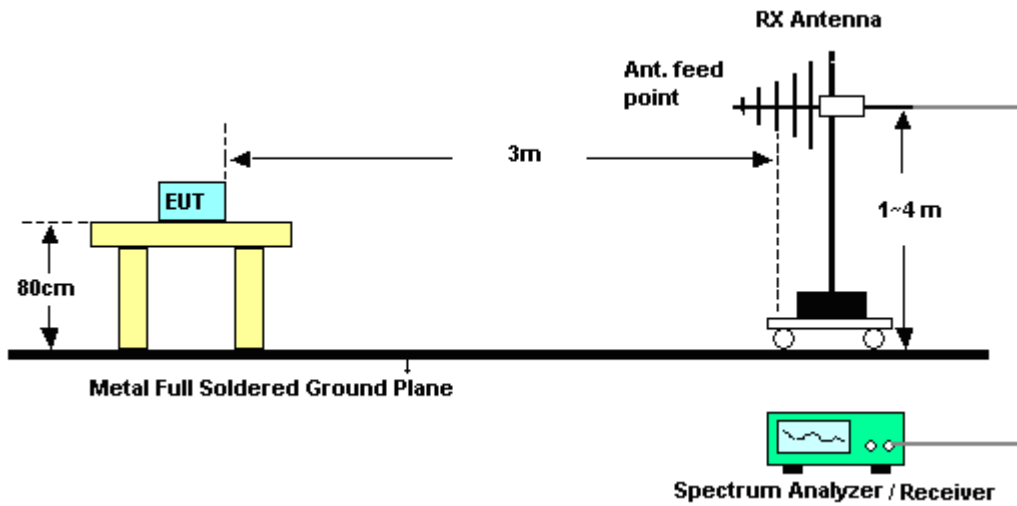
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband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

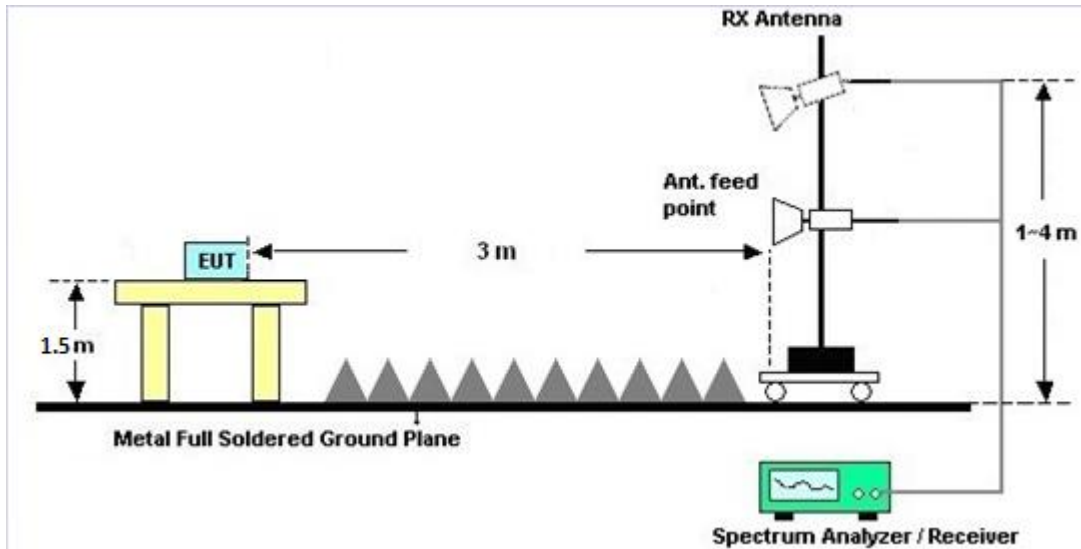
For radiated emissions below 30MHz



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 was not reported.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

### 3.4.6 Test Result of Radiated Band Edges

Please refer to Appendix C and D.

### 3.4.7 Duty Cycle

Please refer to Appendix E.

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

Please refer to Appendix C and D.



### 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

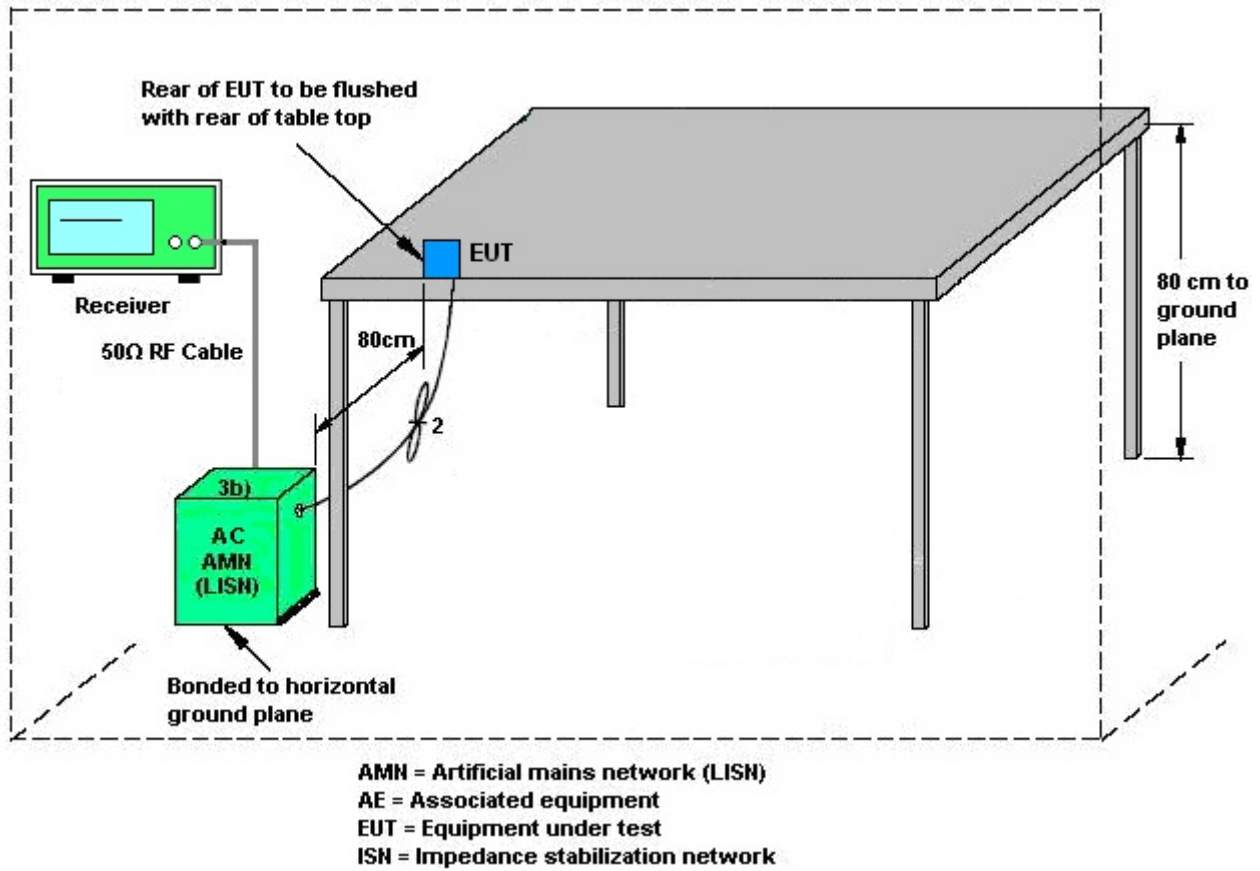
The measuring equipment is listed in the section 4 of this test report.

#### 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



### 3.5.5 Test Result of AC Conducted Emission

Please refer to Appendix B.



## **3.6 Automatically Discontinue Transmission**

### **3.6.1 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.

### **3.6.2 Measuring Instruments**

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

### **3.6.3 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.



### 3.7 Antenna Requirements

#### 3.7.1 Standard Applicable

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.

#### 3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

#### 3.7.3 Antenna Gain

<CDD Modes >

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

Directional gain = GANT + Array Gain, where Array Gain is as follows.

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

Array Gain = 10 log(NANT/NSS=1) dB.

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4.

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

The EUT supports CDD mode.

For power, the directional gain GANT is set equal to the antenna having the highest gain, i.e., F)2)f)i).

For PSD, the directional gain calculation is following F)2)f)ii) of KDB 662911 D01 v02r01.

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.

<CDD Modes>						
			DG	DG	Power	PSD
			for	for	Limit	Limit
	Ant. 1	Ant. 2	Power	PSD	Reduction	Reduction
	(dBi)	(dBi)	(dBi)	(dBi)	(dB)	(dB)
Band IV	2.40	3.20	3.20	5.82	0.00	0.00

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	0932001	N/A	Sep. 26, 2017	Mar. 01, 2018~ Mar. 23, 2018	Sep. 25, 2018	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	0846202	300MHz~40GHz z	Sep. 26, 2017	Mar. 01, 2018~ Mar. 23, 2018	Sep. 25, 2018	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP30	101067	9kHz ~ 30GHz	Nov. 13, 2017	Mar. 01, 2018~ Mar. 23, 2018	Nov. 12, 2018	Conducted (TH05-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL890001	1V~20V 0.5A~4A	Oct. 06, 2017	Mar. 01, 2018~ Mar. 23, 2018	Oct. 05, 2018	Conducted (TH05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Mar. 01, 2018	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	3.6GHz	Dec. 08, 2017	Mar. 01, 2018	Dec. 07, 2018	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 30, 2017	Mar. 01, 2018	Nov. 29, 2018	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Mar. 01, 2018	N/A	Conduction (CO05-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Aug. 23, 2017	Mar. 15, 2018~ Mar. 21, 2018	Aug. 22, 2018	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1590075	1GHz ~ 18GHz	Apr. 25, 2017	Mar. 15, 2018~ Mar. 21, 2018	Apr. 24, 2018	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A023 62	1GHz~ 26.5GHz	Oct. 30, 2017	Mar. 15, 2018~ Mar. 21, 2018	Oct. 29, 2018	Radiation (03CH07-HY)
Spectrum Analyzer	Agilent	N9010A	MY534701 18	10Hz~44GHz	Apr. 17, 2017	Mar. 15, 2018~ Mar. 21, 2018	Apr. 16, 2018	Radiation (03CH07-HY)
Antenna Mast	Max-Full	MFA520BS	N/A	1m~4m	N/A	Mar. 15, 2018~ Mar. 21, 2018	N/A	Radiation (03CH07-HY)
Turn Table	ChainTek	Chaintek 3000	N/A	0~360 Degree	N/A	Mar. 15, 2018~ Mar. 21, 2018	N/A	Radiation (03CH07-HY)
Amplifier	MITEQ	TTA1840-35- HG	1871923	18GHz~40GHz, VSWR : 2.5:1 max	Jul. 18, 2017	Mar. 15, 2018~ Mar. 21, 2018	Jul. 17, 2018	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA9170 251	18GHz- 40GHz	Nov. 10, 2017	Mar. 15, 2018~ Mar. 21, 2018	Nov. 09, 2018	Radiation (03CH07-HY)
Software	Audix	E3 6.2009-8- 24	N/A	N/A	N/A	Mar. 15, 2018~ Mar. 21, 2018	N/A	Radiation (03CH07-HY)



## 5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	2.70
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### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	5.70
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### Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	5.50
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### Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	5.20
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**Appendix A. Test Result of Conducted Test Items**

Test Engineer:	Luffy Lin	Temperature:	21~25	°C
Test Date:	2018/03/01 ~ 2018/03/23	Relative Humidity:	51~54	%

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

Band IV													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)		26dB Bandwidth (MHz)		6 dB Bandwidth (MHz)		6 dB Bandwidth Min. Limit (MHz)		Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	2	149	5745	24.75	28.25	44.23	45.70	16.26	16.04	0.5	0.5	Pass
11a	6Mbps	2	157	5785	26.05	29.20	46.20	48.74	15.70	15.10	0.5	0.5	Pass
11a	6Mbps	2	165	5825	27.10	28.90	46.36	46.60	15.68	15.36	0.5	0.5	Pass
HT20	MCS0	2	149	5745	26.25	29.75	45.40	46.40	15.64	16.27	0.5	0.5	Pass
HT20	MCS0	2	157	5785	26.30	28.40	47.36	49.31	15.69	15.28	0.5	0.5	Pass
HT20	MCS0	2	165	5825	28.15	29.20	45.77	46.50	15.63	15.12	0.5	0.5	Pass
HT40	MCS0	2	151	5755	52.70	57.00	99.12	97.11	35.96	36.32	0.5	0.5	Pass
HT40	MCS0	2	159	5795	54.70	57.70	102.60	100.85	36.28	36.00	0.5	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
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	2	149	5745	0.20	0.23	19.00	19.93	22.50	30.00	3.20		Pass	
11a	6Mbps	2	157	5785	0.20	0.23	18.73	19.79	22.30	30.00	3.20		Pass	
11a	6Mbps	2	165	5825	0.20	0.23	18.77	19.59	22.21	30.00	3.20		Pass	
HT20	MCS0	2	149	5745	0.22	0.24	18.88	19.69	22.32	30.00	3.20		Pass	
HT20	MCS0	2	157	5785	0.22	0.24	18.60	19.66	22.17	30.00	3.20		Pass	
HT20	MCS0	2	165	5825	0.22	0.24	18.69	19.48	22.12	30.00	3.20		Pass	
HT40	MCS0	2	151	5755	0.49	0.49	18.20	19.06	21.66	30.00	3.20		Pass	
HT40	MCS0	2	159	5795	0.49	0.49	18.22	18.83	21.54	30.00	3.20		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
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	2	149	5745	0.20	0.23	2.22	4.31	3.20	8.43	30.00	5.82	Pass			
11a	6Mbps	2	157	5785	0.20	0.23	2.22	3.59	2.50	7.73	30.00	5.82	Pass			
11a	6Mbps	2	165	5825	0.20	0.23	2.22	3.85	2.66	7.89	30.00	5.82	Pass			
HT20	MCS0	2	149	5745	0.22	0.24	2.22	4.16	2.95	8.18	30.00	5.82	Pass			
HT20	MCS0	2	157	5785	0.22	0.24	2.22	3.41	2.26	7.49	30.00	5.82	Pass			
HT20	MCS0	2	165	5825	0.22	0.24	2.22	3.67	2.45	7.68	30.00	5.82	Pass			
HT40	MCS0	2	151	5755	0.49	0.49	2.22	0.21	-1.23	4.00	30.00	5.82	Pass			
HT40	MCS0	2	159	5795	0.49	0.49	2.22	-0.31	-1.94	3.29	30.00	5.82	Pass			

Note: PSD Sum = Max PSD(Ant. 1, Ant. 2) + 10 log (n)



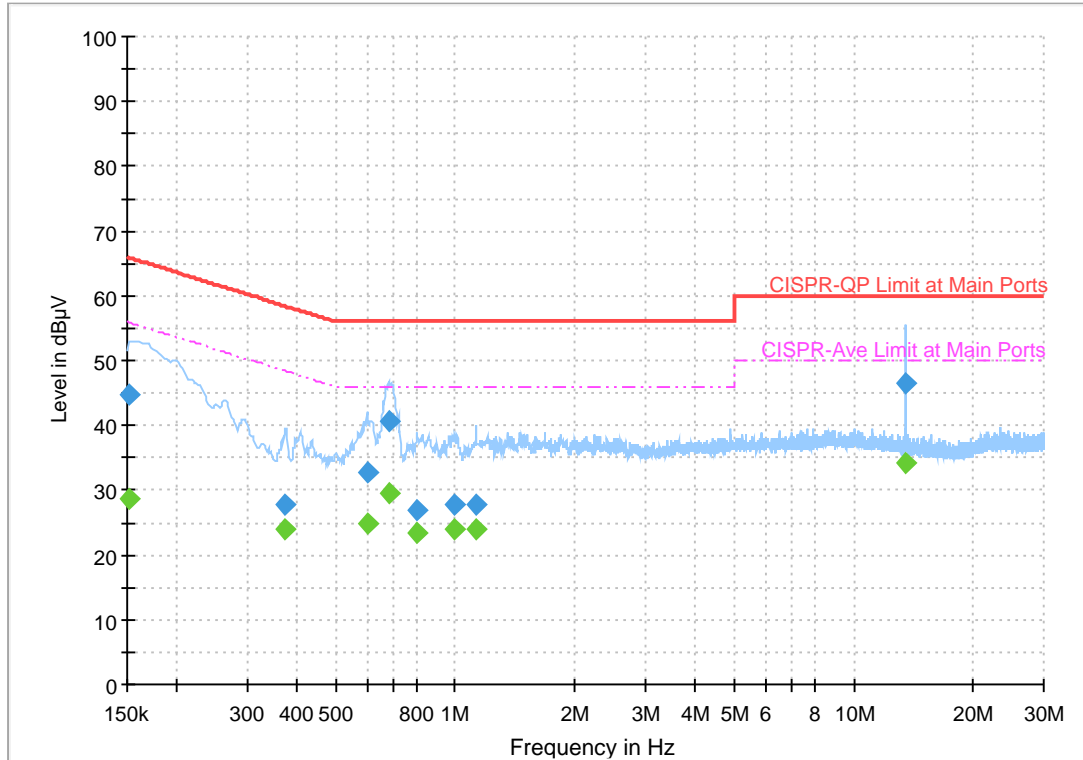
## Appendix B. AC Conducted Emission Test Results

Test Engineer :	Blue Lan	Temperature :	23~25°C
		Relative Humidity :	52~55%

# EUT Information

Report NO : 820904  
 Test Mode : Mode 1  
 Test Voltage : 120Vac/60Hz  
 Phase : Line

Full Spectrum



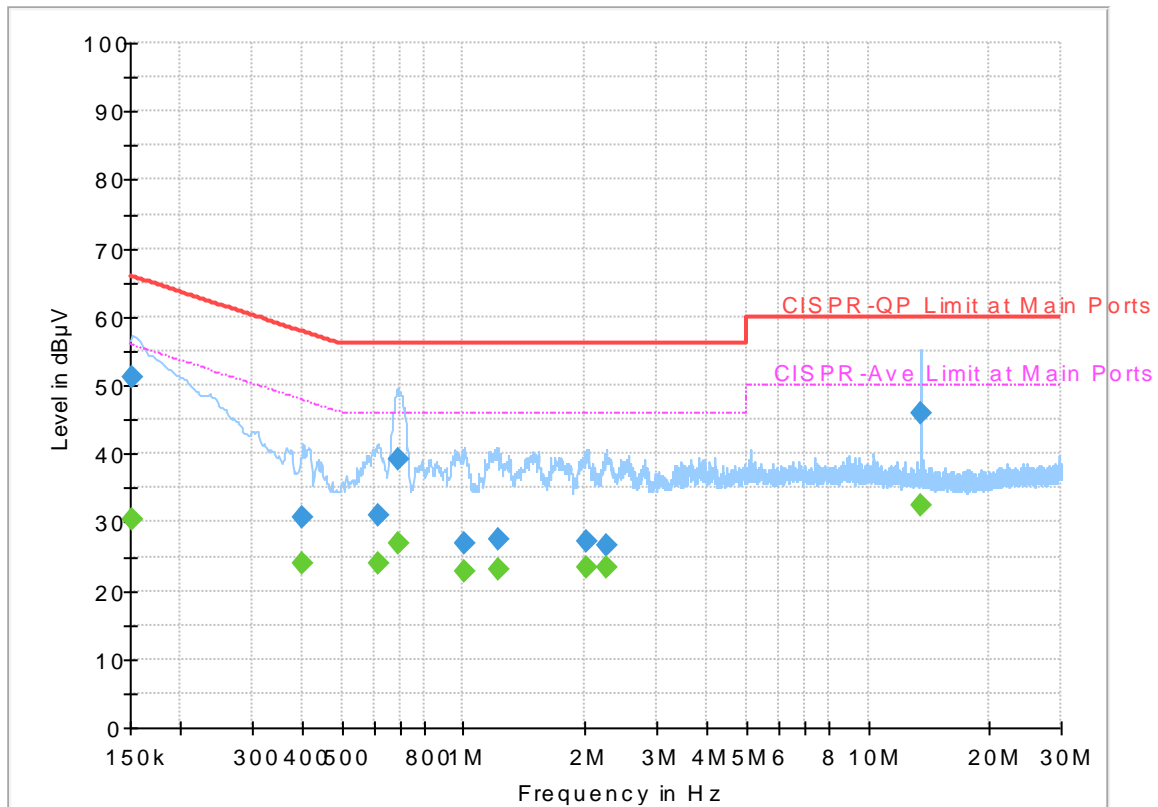
## Final Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.152250	---	28.51	55.88	27.37	L1	OFF	19.5
0.152250	44.64	---	65.88	21.24	L1	OFF	19.5
0.375000	---	23.88	48.39	24.51	L1	OFF	19.5
0.375000	27.78	---	58.39	30.61	L1	OFF	19.5
0.600000	---	24.95	46.00	21.05	L1	OFF	19.5
0.600000	32.69	---	56.00	23.31	L1	OFF	19.5
0.681000	---	29.50	46.00	16.50	L1	OFF	19.5
0.681000	40.55	---	56.00	15.45	L1	OFF	19.5
0.802500	---	23.34	46.00	22.66	L1	OFF	19.5
0.802500	26.77	---	56.00	29.23	L1	OFF	19.5
0.998250	---	23.85	46.00	22.15	L1	OFF	19.5
0.998250	27.80	---	56.00	28.20	L1	OFF	19.5
1.126500	---	23.95	46.00	22.05	L1	OFF	19.5
1.126500	27.66	---	56.00	28.34	L1	OFF	19.5
13.558000	---	34.20	50.00	15.80	L1	OFF	19.7
13.558000	46.56	---	60.00	13.44	L1	OFF	19.7

## EUT Information

Report NO : 820904  
 Test Mode : Mode 1  
 Test Voltage : 120Vac/60Hz  
 Phase : Neutral

Full Spectrum



## Final\_Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.152250	---	30.30	55.88	25.58	N	OFF	19.5
0.152250	51.05	---	65.88	14.83	N	OFF	19.5
0.399750	---	23.98	47.86	23.88	N	OFF	19.5
0.399750	30.60	---	57.86	27.26	N	OFF	19.5
0.613500	---	23.94	46.00	22.06	N	OFF	19.5
0.613500	30.90	---	56.00	25.10	N	OFF	19.5
0.687750	---	27.00	46.00	19.00	N	OFF	19.5
0.687750	39.10	---	56.00	16.90	N	OFF	19.5
1.007250	---	22.85	46.00	23.15	N	OFF	19.5
1.007250	27.04	---	56.00	28.96	N	OFF	19.5
1.214250	---	22.96	46.00	23.04	N	OFF	19.5
1.214250	27.39	---	56.00	28.61	N	OFF	19.5
2.015250	---	23.36	46.00	22.64	N	OFF	19.6
2.015250	27.14	---	56.00	28.86	N	OFF	19.6
2.260500	---	23.28	46.00	22.72	N	OFF	19.4
2.260500	26.48	---	56.00	29.52	N	OFF	19.4
13.558000	---	32.38	50.00	17.62	N	OFF	19.8
13.558000	45.92	---	60.00	14.08	N	OFF	19.8



## Appendix C. Radiated Spurious Emission

Test Engineer :	Jesse Wang, Stan Hsieh, and Lance Chiang	Temperature :	22~24°C
		Relative Humidity :	50~54%

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

WIFI Ant.	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )	
802.11a CH 149 5745MHz		5648.6	51.47	-16.73	68.2	40.14	35.09	11.43	35.19	100	94	P	H	
		5699.4	68.34	-36.42	104.76	56.91	35.17	11.46	35.2	100	94	P	H	
		5719.4	76.21	-34.42	110.63	64.7	35.21	11.5	35.2	100	94	P	H	
		5723.8	83.47	-35.99	119.46	71.96	35.21	11.5	35.2	100	94	P	H	
	*	5745	111.88	-	-	100.32	35.24	11.53	35.21	100	94	P	H	
	*	5745	102.67	-	-	91.11	35.24	11.53	35.21	100	94	A	H	
														H
														H
			5644.6	53.76	-14.44	68.2	42.43	35.09	11.43	35.19	104	169	P	V
			5698.8	75.48	-28.84	104.32	64.05	35.17	11.46	35.2	104	169	P	V
			5718.6	84.29	-26.12	110.41	72.78	35.21	11.5	35.2	104	169	P	V
			5724.6	88.9	-32.39	121.29	77.39	35.21	11.5	35.2	104	169	P	V
	*		5745	116.3	-	-	104.74	35.24	11.53	35.21	104	169	P	V
	*		5745	108.66	-	-	97.1	35.24	11.53	35.21	104	169	A	V
														V
													V	



WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)	
802.11a CH 157 5785MHz		5650	49.77	-18.43	68.2	38.41	35.12	11.43	35.19	102	88	P	H	
		5700	52.4	-52.8	105.2	40.97	35.17	11.46	35.2	102	88	P	H	
		5718.6	59.24	-51.17	110.41	47.73	35.21	11.5	35.2	102	88	P	H	
		5723.8	59.4	-60.06	119.46	47.89	35.21	11.5	35.2	102	88	P	H	
	*	5785	110.74	-	-	99.11	35.29	11.56	35.22	102	88	P	H	
	*	5785	102.65	-	-	91.02	35.29	11.56	35.22	102	88	A	H	
		5852.2	56.62	-60.56	117.18	44.87	35.38	11.6	35.23	102	88	P	H	
		5855.2	58.75	-51.99	110.74	46.97	35.41	11.6	35.23	102	88	P	H	
		5880.8	51.28	-49.61	100.89	39.44	35.43	11.65	35.24	102	88	P	H	
		5937.8	50.48	-17.72	68.2	38.54	35.5	11.69	35.25	102	88	P	H	
														H
														H
			5623	49.92	-18.28	68.2	38.6	35.07	11.43	35.18	100	168	P	V
			5692.8	56.69	-43.2	99.89	45.26	35.17	11.46	35.2	100	168	P	V
			5710	65.29	-42.71	108	53.8	35.19	11.5	35.2	100	168	P	V
			5724.4	67.39	-53.44	120.83	55.88	35.21	11.5	35.2	100	168	P	V
	*		5785	115.97	-	-	104.34	35.29	11.56	35.22	100	168	P	V
	*		5785	108.34	-	-	96.71	35.29	11.56	35.22	100	168	A	V
			5854	62.32	-50.76	113.08	50.54	35.41	11.6	35.23	100	168	P	V
			5858.4	61.38	-48.47	109.85	49.61	35.41	11.6	35.24	100	168	P	V
		5875	56.11	-49.09	105.2	44.27	35.43	11.65	35.24	100	168	P	V	
		5931.6	51.14	-17.06	68.2	39.19	35.5	11.69	35.24	100	168	P	V	
													V	
													V	



WiFi Ant. 1+2	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )	
802.11a CH 165 5825MHz	*	5825	110.7	-	-	98.96	35.36	11.6	35.22	100	123	P	H	
	*	5825	102.78	-	-	91.04	35.36	11.6	35.22	100	123	A	H	
		5853.2	74.82	-40.08	114.9	63.07	35.38	11.6	35.23	100	123	P	H	
		5857.2	73.07	-37.11	110.18	61.29	35.41	11.6	35.23	100	123	P	H	
		5877.6	63.85	-39.42	103.27	52.01	35.43	11.65	35.24	100	123	P	H	
		5925.2	51.43	-16.77	68.2	39.48	35.5	11.69	35.24	100	123	P	H	
														H
														H
	*	5825	116.08	-	-	104.34	35.36	11.6	35.22	114	169	P	V	
	*	5825	108.51	-	-	96.77	35.36	11.6	35.22	114	169	A	V	
		5850.01	79.62	-42.56	122.18	67.87	35.38	11.6	35.23	114	169	P	V	
		5859	75.32	-34.36	109.68	63.55	35.41	11.6	35.24	114	169	P	V	
		5878	67.31	-35.66	102.97	55.47	35.43	11.65	35.24	114	169	P	V	
		5927.6	53.79	-14.41	68.2	41.84	35.5	11.69	35.24	114	169	P	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+2	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )
802.11a CH 149 5745MHz		11490	45.8	-28.2	74	46.66	38.38	18.1	57.34	100	0	P	H
		17235	47.87	-20.33	68.2	40.64	41.77	21.26	55.8	100	0	P	H
													H
													H
		11490	46.06	-27.94	74	46.92	38.38	18.1	57.34	100	0	P	V
		17235	48.01	-20.19	68.2	40.78	41.77	21.26	55.8	100	0	P	V
													V
													V
802.11a CH 157 5785MHz		11570	45.67	-28.33	74	46.24	38.46	18.16	57.19	100	0	P	H
		17355	49.87	-18.33	68.2	42.71	41.61	21.35	55.8	100	0	P	H
													H
													H
		11570	46.43	-27.57	74	47	38.46	18.16	57.19	100	0	P	V
		17355	49.8	-18.4	68.2	42.64	41.61	21.35	55.8	100	0	P	V
													V
													V
802.11a CH 165 5825MHz		11650	47.28	-26.72	74	47.58	38.51	18.27	57.08	100	0	P	H
		17475	49.64	-18.56	68.2	42.56	41.45	21.43	55.8	100	0	P	H
													H
													H
		11650	47.19	-26.81	74	47.49	38.51	18.27	57.08	100	0	P	V
		17475	49.21	-18.99	68.2	42.13	41.45	21.43	55.8	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												





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

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )	
802.11n HT20 CH 149 5745MHz		5631.8	49.44	-18.76	68.2	38.13	35.07	11.43	35.19	100	91	P	H	
		5699.8	67.62	-37.43	105.05	56.19	35.17	11.46	35.2	100	91	P	H	
		5719.6	76.64	-34.05	110.69	65.13	35.21	11.5	35.2	100	91	P	H	
		5722.2	79.89	-35.93	115.82	68.38	35.21	11.5	35.2	100	91	P	H	
	*	5745	110.55	-	-	98.99	35.24	11.53	35.21	100	91	P	H	
	*	5745	102.36	-	-	90.8	35.24	11.53	35.21	100	91	A	H	
														H
														H
			5648.2	55.35	-12.85	68.2	44.02	35.09	11.43	35.19	104	170	P	V
			5699.6	73.69	-31.22	104.91	62.26	35.17	11.46	35.2	104	170	P	V
			5719.8	84.2	-26.54	110.74	72.69	35.21	11.5	35.2	104	170	P	V
			5724.2	89.33	-31.05	120.38	77.82	35.21	11.5	35.2	104	170	P	V
	*		5745	115.71	-	-	104.15	35.24	11.53	35.21	104	170	P	V
	*		5745	107.79	-	-	96.23	35.24	11.53	35.21	104	170	A	V
														V
													V	



WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )	
802.11n HT20 CH 157 5785MHz		5638.4	49.34	-18.86	68.2	38.01	35.09	11.43	35.19	104	87	P	H	
		5698.8	54.86	-49.46	104.32	43.43	35.17	11.46	35.2	104	87	P	H	
		5713	60.86	-47.98	108.84	49.37	35.19	11.5	35.2	104	87	P	H	
		5722	61.74	-53.62	115.36	50.23	35.21	11.5	35.2	104	87	P	H	
	*	5785	109.82	-	-	98.19	35.29	11.56	35.22	104	87	P	H	
	*	5785	102.02	-	-	90.39	35.29	11.56	35.22	104	87	A	H	
		5851.4	59.17	-59.84	119.01	47.42	35.38	11.6	35.23	104	87	P	H	
		5862	55.1	-53.74	108.84	43.28	35.41	11.65	35.24	104	87	P	H	
		5884.4	51.89	-46.33	98.22	40.05	35.43	11.65	35.24	104	87	P	H	
		5939.6	49.11	-19.09	68.2	37.14	35.53	11.69	35.25	104	87	P	H	
														H
														H
			5630.2	49.52	-18.68	68.2	38.21	35.07	11.43	35.19	108	170	P	V
			5695.4	60.19	-41.62	101.81	48.76	35.17	11.46	35.2	108	170	P	V
			5717	68.45	-41.51	109.96	56.96	35.19	11.5	35.2	108	170	P	V
			5721.8	68.33	-46.57	114.9	56.82	35.21	11.5	35.2	108	170	P	V
	*		5785	115.78	-	-	104.15	35.29	11.56	35.22	108	170	P	V
	*		5785	107.79	-	-	96.16	35.29	11.56	35.22	108	170	A	V
			5851.6	64.36	-54.19	118.55	52.61	35.38	11.6	35.23	108	170	P	V
			5858.4	64.8	-45.05	109.85	53.03	35.41	11.6	35.24	108	170	P	V
		5877.6	56.55	-46.72	103.27	44.71	35.43	11.65	35.24	108	170	P	V	
		5935.2	49.84	-18.36	68.2	37.9	35.5	11.69	35.25	108	170	P	V	
													V	
													V	



WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Path 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	109.89	-	-	98.15	35.36	11.6	35.22	100	122	P	H	
	*	5825	101.93	-	-	90.19	35.36	11.6	35.22	100	122	A	H	
		5851.8	78.68	-39.42	118.1	66.93	35.38	11.6	35.23	100	122	P	H	
		5856	74.5	-36.02	110.52	62.72	35.41	11.6	35.23	100	122	P	H	
		5881.6	64.2	-36.1	100.3	52.36	35.43	11.65	35.24	100	122	P	H	
		5926.6	53.05	-15.15	68.2	41.1	35.5	11.69	35.24	100	122	P	H	
														H
														H
	*	5825	115.31	-	-	103.57	35.36	11.6	35.22	114	168	P	V	
	*	5825	107.82	-	-	96.08	35.36	11.6	35.22	114	168	A	V	
		5852	82.89	-34.75	117.64	71.14	35.38	11.6	35.23	114	168	P	V	
		5856.6	79.55	-30.8	110.35	67.77	35.41	11.6	35.23	114	168	P	V	
		5877	68.73	-34.98	103.71	56.89	35.43	11.65	35.24	114	168	P	V	
		5939	52.77	-15.43	68.2	40.8	35.53	11.69	35.25	114	168	P	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+2	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Path 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	46.61	-27.39	74	47.47	38.38	18.1	57.34	100	0	P	H
		17235	49.76	-18.44	68.2	42.53	41.77	21.26	55.8	100	0	P	H
													H
													H
		11490	47.08	-26.92	74	47.94	38.38	18.1	57.34	100	0	P	V
		17235	49.94	-18.26	68.2	42.71	41.77	21.26	55.8	100	0	P	V
													V
802.11n HT20 CH 157 5785MHz		11570	44.69	-29.31	74	45.26	38.46	18.16	57.19	100	0	P	H
		17355	47.68	-20.52	68.2	40.52	41.61	21.35	55.8	100	0	P	H
													H
													H
		11570	45.43	-28.57	74	46	38.46	18.16	57.19	100	0	P	V
		17355	48.17	-20.03	68.2	41.01	41.61	21.35	55.8	100	0	P	V
													V
802.11n HT20 CH 165 5825MHz		11650	46.16	-27.84	74	46.46	38.51	18.27	57.08	100	0	P	H
		17475	49.2	-19	68.2	42.12	41.45	21.43	55.8	100	0	P	H
													H
													H
		11650	47.22	-26.78	74	47.52	38.51	18.27	57.08	100	0	P	V
		17475	49.89	-18.31	68.2	42.81	41.45	21.43	55.8	100	0	P	V
													V
Remark	1. No other spurious found.												
	2. All results are PASS against Peak and Average limit line.												



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

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )
		5649.8	59.9	-8.3	68.2	48.54	35.12	11.43	35.19	100	87	P	H
		5697.4	75.03	-28.25	103.28	63.6	35.17	11.46	35.2	100	87	P	H
		5719.8	85.8	-24.94	110.74	74.29	35.21	11.5	35.2	100	87	P	H
		5724.6	87.25	-34.04	121.29	75.74	35.21	11.5	35.2	100	87	P	H
	*	5755	106.51	-	-	94.93	35.26	11.53	35.21	100	87	P	H
	*	5755	99.31	-	-	87.73	35.26	11.53	35.21	100	87	A	H
		5852	58.79	-58.85	117.64	47.04	35.38	11.6	35.23	100	87	P	H
		5855.2	60.79	-49.95	110.74	49.01	35.41	11.6	35.23	100	87	P	H
		5875	54.7	-50.5	105.2	42.86	35.43	11.65	35.24	100	87	P	H
		5941.4	49.62	-18.58	68.2	37.6	35.53	11.74	35.25	100	87	P	H
<b>802.11n</b>													H
<b>HT40</b>													H
<b>CH 151</b>		5640	61.97	-6.23	68.2	50.64	35.09	11.43	35.19	101	169	P	V
<b>5755MHz</b>		5699.8	77.52	-27.53	105.05	66.09	35.17	11.46	35.2	101	169	P	V
		5717.4	87.28	-22.79	110.07	75.79	35.19	11.5	35.2	101	169	P	V
		5724.6	88.27	-33.02	121.29	76.76	35.21	11.5	35.2	101	169	P	V
	*	5755	110.68	-	-	99.1	35.26	11.53	35.21	101	169	P	V
	*	5755	103.46	-	-	91.88	35.26	11.53	35.21	101	169	A	V
		5853.6	65.74	-48.25	113.99	53.96	35.41	11.6	35.23	101	169	P	V
		5857.6	64.95	-45.12	110.07	53.17	35.41	11.6	35.23	101	169	P	V
		5878.2	57.72	-45.1	102.82	45.88	35.43	11.65	35.24	101	169	P	V
		5933	54.12	-14.08	68.2	42.17	35.5	11.69	35.24	101	169	P	V
													V
													V



WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)
		5643.2	52.79	-15.41	68.2	41.46	35.09	11.43	35.19	100	122	P	H
		5697	62.64	-40.35	102.99	51.21	35.17	11.46	35.2	100	122	P	H
		5714.2	68.84	-40.34	109.18	57.35	35.19	11.5	35.2	100	122	P	H
		5724.2	69.78	-50.6	120.38	58.27	35.21	11.5	35.2	100	122	P	H
	*	5795	105.89	-	-	94.24	35.31	11.56	35.22	100	122	P	H
	*	5795	98.21	-	-	86.56	35.31	11.56	35.22	100	122	A	H
		5851.4	67.68	-51.33	119.01	55.93	35.38	11.6	35.23	100	122	P	H
		5859	69.23	-40.45	109.68	57.46	35.41	11.6	35.24	100	122	P	H
		5876.8	62.45	-41.41	103.86	50.61	35.43	11.65	35.24	100	122	P	H
		5929	53.41	-14.79	68.2	41.46	35.5	11.69	35.24	100	122	P	H
<b>802.11n</b>													H
<b>HT40</b>													H
<b>CH 159</b>		5639	53.7	-14.5	68.2	42.37	35.09	11.43	35.19	115	169	P	V
<b>5795MHz</b>		5699.8	67	-38.05	105.05	55.57	35.17	11.46	35.2	115	169	P	V
		5717.2	71.83	-38.19	110.02	60.34	35.19	11.5	35.2	115	169	P	V
		5722.4	74.28	-41.99	116.27	62.77	35.21	11.5	35.2	115	169	P	V
	*	5795	110.8	-	-	99.15	35.31	11.56	35.22	115	169	P	V
	*	5795	103.72	-	-	92.07	35.31	11.56	35.22	115	169	A	V
		5850.2	74.56	-47.18	121.74	62.81	35.38	11.6	35.23	115	169	P	V
		5861.2	73.31	-35.75	109.06	61.49	35.41	11.65	35.24	115	169	P	V
		5877.2	66.18	-37.39	103.57	54.34	35.43	11.65	35.24	115	169	P	V
		5925.6	55.47	-12.73	68.2	43.52	35.5	11.69	35.24	115	169	P	V
													V
													V
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**Emission below 1GHz**

**5GHz WIFI 802.11n HT40 (LF @ 3m)**

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	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)	
<b>5GHz 802.11n HT40 LF</b>		30.27	22.15	-17.85	40	28.18	24.6	1.2	31.83	-	-	P	H	
		95.34	24.84	-18.66	43.5	39.72	15.21	1.66	31.75	-	-	P	H	
		253.02	24.91	-21.09	46	35.32	18.73	2.51	31.65	-	-	P	H	
		423.2	37.51	-8.49	46	43.07	22.61	3.48	31.65	100	0	P	H	
		848.8	32.98	-13.02	46	31.14	28.73	4.68	31.57	-	-	P	H	
		964.3	34.37	-19.63	54	29.24	30.88	5.04	30.79	-	-	P	H	
														H
														H
														H
														H
														H
														H
														H
														H
														H
														H
														H
														H
														H
			48.9	26.51	-13.49	40	41.98	15.07	1.26	31.8	-	-	P	V
		91.56	21.45	-22.05	43.5	36.77	14.77	1.67	31.76	-	-	P	V	
		261.93	19.81	-26.19	46	29.25	19.46	2.74	31.64	-	-	P	V	
		423.2	31.98	-14.02	46	37.54	22.61	3.48	31.65	-	-	P	V	
		946.8	33.26	-12.74	46	28.99	30.18	5.03	30.94	100	0	P	V	
		961.5	34.61	-19.39	54	29.49	30.9	5.04	30.82	-	-	P	V	
													V	
													V	
													V	
													V	
													V	
													V	
													V	
<b>Remark</b>	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	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		( MHz )	( dBμV/m )	( dB )	( dBμV/m )	( dBμV )	( dB/m )	( dB )	( dB )	( cm )	( deg )	( P/A )	( H/V )
802.11b		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

1. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)
2. Level(dBμV/m) = Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
3. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

**For Peak Limit @ 2390MHz:**

1. Level(dBμV/m)  
= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)  
= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)  
= 55.45 (dBμV/m)
2. Over Limit(dB)  
= Level(dBμV/m) – Limit Line(dBμV/m)  
= 55.45(dBμV/m) – 74(dBμV/m)  
= -18.55(dB)

**For Average Limit @ 2390MHz:**

1. Level(dBμV/m)  
= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)  
= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)  
= 43.54 (dBμV/m)
2. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)  
= 43.54(dBμV/m) – 54(dBμV/m)  
= -10.46(dB)

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



## Appendix D. Radiated Spurious Emission Plots

Test Engineer :	Jesse Wang, Stan Hsieh, and Lance Chiang	Temperature :	22~24°C
		Relative Humidity :	50~54%

### 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+2	Horizontal	Fundamental
Peak	<p>Site : 03CH07-4HY Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 820904 Mode : 30 Setting : 80</p>	<p>Site : 03CH07-4HY Condition : PEAK(UNII) 3m HF_ANT_00075962 HORIZONTAL Detector : Peak Project : 820904 Mode : 30 Setting : 80</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
1+2	Vertical	Fundamental
Peak	<p>           Site : 03CH07-HY            Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL            Detector : Peak            Project : 820904            Mode : 30            Setting : 80         </p>	<p>           Site : 03CH07-HY            Condition : PEAK(UNII) 3m HF_ANT_00075962 VERTICAL            Detector : Peak            Project : 820904            Mode : 30            Setting : 80         </p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
1+2	Horizontal	Fundamental
Peak	<p>Site : 03CH07-HY            Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL            Detector : Peak            Project : 820904            Mode : 31            Setting : 80</p>	<p>Site : 03CH07-HY            Condition : PEAK(UNII) 3m HF_ANT_00075962 HORIZONTAL            Detector : Peak            Project : 820904            Mode : 31            Setting : 80</p>
Peak	<p>Site : 03CH07-HY            Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL            Detector : Peak            Project : 820904            Mode : 31            Setting : 80</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
1+2	Vertical	Fundamental
Peak	<p>Site : 03CH07-HY            Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL            : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : 820904            Mode : 31            Setting : 80</p>	<p>Site : 03CH07-HY            Condition : PEAK(UNII) 3m HF_ANT_00075962 VERTICAL            : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : 820904            Mode : 31            Setting : 80</p>
Peak	<p>Site : 03CH07-HY            Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL            : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : 820904            Mode : 31            Setting : 80</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
1+2	Horizontal	Fundamental
Peak	<p>Site : 03CH07-HY            Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL            Detector : Peak            Project : 820904            Mode : 32            Setting : 80</p>	<p>Site : 03CH07-HY            Condition : PEAK(UWB) 3m HF_ANT_00075962 HORIZONTAL            Detector : Peak            Project : 820904            Mode : 32            Setting : 80</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
1+2	Vertical	Fundamental
Peak	<p>Site : 03CH07-HY            Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL            RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : 820904            Mode : 32            Setting : 80</p>	<p>Site : 03CH07-HY            Condition : PEAK(UWB) 3m HF_ANT_00075962 VERTICAL            RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : 820904            Mode : 32            Setting : 80</p>



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

<b>WIFI</b>	<b>Band 4 5725~5850MHz Band Edge @ 3m</b>	
<b>ANT</b>	<b>802.11n HT20 CH149 5745MHz</b>	
<b>1+2</b>	<b>Horizontal</b>	<b>Fundamental</b>
<b>Peak</b>	<p>Site : 03CH07-HY          Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL          Detector : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto          Detector : Peak          Project : 820904          Mode : 33          Setting : 80</p>	<p>Site : 03CH07-HY          Condition : PEAK(UNIT) 3m HF_ANT_00075962 HORIZONTAL          Detector : RBW:3000.000KHz VBW:3000.000KHz SWT:Auto          Detector : Peak          Project : 820904          Mode : 33          Setting : 80</p>





WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1+2	Vertical	Fundamental
Peak	<p>           Site : 03CH07-HY            Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL            Detector : Peak            Project : 820904            Mode : 33            Setting : 80         </p>	<p>           Site : 03CH07-HY            Condition : PEAK(UNII) 3m HF_ANT_00075962 VERTICAL            Detector : Peak            Project : 820904            Mode : 33            Setting : 80         </p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1+2	Horizontal	Fundamental
Peak	<p>Site : 03CH07-HY            Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL            Detector : Peak            Project : 820904            Mode : 34            Setting : 80</p>	<p>Site : 03CH07-HY            Condition : PEAK(UNII) 3m HF_ANT_00075962 HORIZONTAL            Detector : Peak            Project : 820904            Mode : 34            Setting : 80</p>
Peak	<p>Site : 03CH07-HY            Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL            Detector : Peak            Project : 820904            Mode : 34            Setting : 80</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1+2	Vertical	Fundamental
Peak	<p>           Date: 2018-03-18            PEAK_BE(B4)_16-24         </p> <p>           Site : 03CH07-HY            Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL            : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : 820904            Mode : 34            Setting : 80         </p>	<p>           Date: 2018-03-18            PEAK(BE)         </p> <p>           Site : 03CH07-HY            Condition : PEAK(UNII) 3m HF_ANT_00075962 VERTICAL            : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : 820904            Mode : 34            Setting : 80         </p>
Peak	<p>           Date: 2018-03-18            PEAK_BE(B4)_16-24         </p> <p>           Site : 03CH07-HY            Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL            : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : 820904            Mode : 34            Setting : 80         </p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1+2	Horizontal	Fundamental
Peak	<p>Site : 03CH07-HY            Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL            RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : 820904            Mode : 35            Setting : 80</p>	<p>Site : 03CH07-HY            Condition : PEAK(UNII) 3m HF_ANT_00075962 HORIZONTAL            RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : 820904            Mode : 35            Setting : 80</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1+2	Vertical	Fundamental
Peak	<p>Site : 03CH07-HY            Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL            RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : 820904            Mode : 35            Setting : 80</p>	<p>Site : 03CH07-HY            Condition : PEAK(UNII) 3m HF_ANT_00075962 VERTICAL            RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : 820904            Mode : 35            Setting : 80</p>



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

<b>WIFI</b>	<b>Band 4 5725~5850MHz Band Edge @ 3m</b>	
<b>ANT</b>	<b>802.11n HT40 CH151 5755MHz</b>	
<b>1+2</b>	<b>Horizontal</b>	<b>Fundamental</b>
<b>Peak</b>	<p>Site : 03CH07-HY          Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL          Detector : Peak          Project : 820904          Mode : 36          Setting : 75</p>	<p>Site : 03CH07-HY          Condition : PEAK(UNIT) 3m HF_ANT_00075962 HORIZONTAL          Detector : Peak          Project : 820904          Mode : 36          Setting : 75</p>
<b>Peak</b>	<p>Site : 03CH07-HY          Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 HORIZONTAL          Detector : Peak          Project : 820904          Mode : 36          Setting : 75</p>	<b>Left blank</b>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1+2	Vertical	Fundamental
Peak	<p>           Site : 03CH07-HY            Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL            : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : 820904            Mode : 36            Setting : 75         </p>	<p>           Site : 03CH07-HY            Condition : PEAK(LINII) 3m HF_ANT_00075962 VERTICAL            : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : 820904            Mode : 36            Setting : 75         </p>
Peak	<p>           Site : 03CH07-HY            Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL            : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : 820904            Mode : 36            Setting : 75         </p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1+2	Horizontal	Fundamental
Peak	<p>Site : 03CH07-HY            Condition : PEAK_BE(84)_16-24 3m HF_ANT_00075962 HORIZONTAL            RBW:1000.000kHz VBW:3000.000kHz SWT:Auto            Detector : Peak            Project : 820904            Mode : 37            Setting : 75</p>	<p>Site : 03CH07-HY            Condition : PEAK(UB) 3m HF_ANT_00075962 HORIZONTAL            RBW:1000.000kHz VBW:3000.000kHz SWT:Auto            Detector : Peak            Project : 820904            Mode : 37            Setting : 75</p>
Peak	<p>Site : 03CH07-HY            Condition : PEAK_BE(84)_16-24 3m HF_ANT_00075962 HORIZONTAL            RBW:1000.000kHz VBW:3000.000kHz SWT:Auto            Detector : Peak            Project : 820904            Mode : 37            Setting : 75</p>	Left blank





WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1+2	Vertical	Fundamental
Peak	<p>Site : 03CH07-HY            Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL            : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : 820904            Mode : 37            Setting : 75</p>	<p>Site : 03CH07-HY            Condition : PEAK(LINII) 3m HF_ANT_00075962 VERTICAL            : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : 820904            Mode : 37            Setting : 75</p>
Peak	<p>Site : 03CH07-HY            Condition : PEAK_BE(B4)_16-24 3m HF_ANT_00075962 VERTICAL            : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto            Detector : Peak            Project : 820904            Mode : 37            Setting : 75</p>	Left blank



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

<b>WIFI</b>	<b>Band 4 5725~5850MHz Harmonic @ 3m</b>	
<b>ANT</b>	<b>802.11a CH149 5745MHz</b>	
<b>1+2</b>	<b>Horizontal</b>	<b>Vertical</b>
<b>Peak</b> <b>Avg.</b>	<p>Site : 03CH07-14Y          Condition : PEAK(LINE1) 3m SHF-EHF_131029 HORIZONTAL          Detector : Peak          Project : 820904          Mode : 30          Setting : 80</p>	<p>Site : 03CH07-14Y          Condition : PEAK(LINE1) 3m SHF-EHF_131029 VERTICAL          Detector : Peak          Project : 820904          Mode : 30          Setting : 80</p>



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH157 5785MHz	
1+2	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH07-HY Condition : PEAK(UNID) 3m SHF-EHF_131029 HORIZONTAL Detector : Peak Project : 820904 Mode : 31 Setting : 80</p>	<p>Site : 03CH07-HY Condition : PEAK(UNID) 3m SHF-EHF_131029 VERTICAL Detector : Peak Project : 820904 Mode : 31 Setting : 80</p>



<b>WIFI</b>	<b>Band 4 5725~5850MHz Harmonic @ 3m</b>	
<b>ANT</b>	<b>802.11a CH165 5825MHz</b>	
<b>1+2</b>	<b>Horizontal</b>	<b>Vertical</b>
<b>Peak Avg.</b>	<p>Site : 03CH07-HY          Condition : PEAK(UNID) 3m SHF-EHF_131029 HORIZONTAL          Detector : Peak          Project : 820904          Mode : 32          Setting : 80</p>	<p>Site : 03CH07-HY          Condition : PEAK(UNID) 3m SHF-EHF_131029 VERTICAL          Detector : Peak          Project : 820904          Mode : 32          Setting : 80</p>



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

Table with 3 columns: WIFI, ANT, 1+2. It contains two spectral plots: Horizontal and Vertical. Each plot shows Level (dBuV/m) vs Frequency (MHz) with a peak and average line. Includes metadata like Site, Condition, Detector, Project, Mode, and Setting.



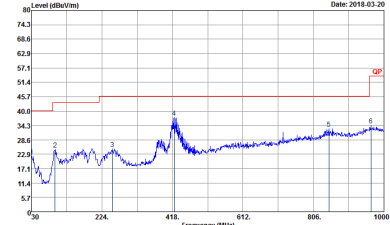
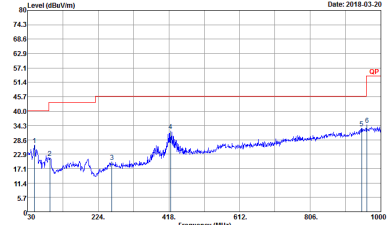
<b>WIFI</b>	<b>Band 4 5725~5850MHz Harmonic @ 3m</b>	
<b>ANT</b>	<b>802.11n HT20 CH157 5785MHz</b>	
<b>1+2</b>	<b>Horizontal</b>	<b>Vertical</b>
<b>Peak Avg.</b>	<p>Site : 03CH07-HY            Condition : PEAK(UNID) 3m SHF-EHF_131029 HORIZONTAL            Detector : Peak            Project : 820904            Mode : 34            Setting : 80</p>	<p>Site : 03CH07-HY            Condition : PEAK(UNID) 3m SHF-EHF_131029 VERTICAL            Detector : Peak            Project : 820904            Mode : 34            Setting : 80</p>



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1+2	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH07-HY Condition : PEAK(UNID) 3m SHF-EHF_131029 HORIZONTAL Detector : Peak Project : 820904 Mode : 35 Setting : 80</p>	<p>Site : 03CH07-HY Condition : PEAK(UNID) 3m SHF-EHF_131029 VERTICAL Detector : Peak Project : 820904 Mode : 35 Setting : 80</p>



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

WIFI	5GHz 5725~5850MHz	
ANT	802.11n HT40 LF	
1+2	Horizontal	Vertical
QP / Peak	 <p>Site : 03CH07-11Y Condition : QP 3m LF-ANT-35419(6) HORIZONTAL Detector : Peak Project : 820904 Mode : 38</p>	 <p>Site : 03CH07-11Y Condition : QP 3m LF-ANT-35419(6) VERTICAL Detector : Peak Project : 820904 Mode : 38</p>





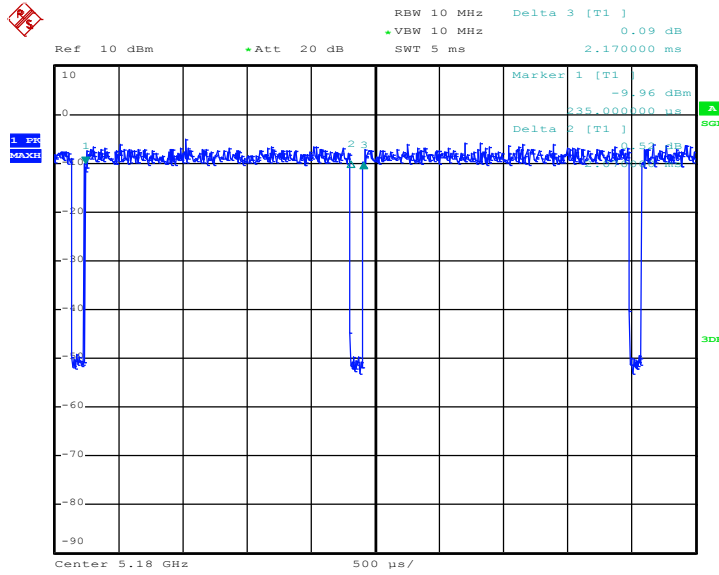
## Appendix E. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting	Duty Factor(dB)
1+2	5 GHz 802.11a for Ant. 1	95.39	2070	0.48	1kHz	0.20
1+2	5 GHz 802.11a for Ant. 2	94.95	2070	0.48	1kHz	0.23
1+2	5 GHz 802.11n HT20 for Ant. 1	95.05	1920	0.52	1kHz	0.22
1+2	5 GHz 802.11n HT20 for Ant. 2	94.55	1910	0.52	1kHz	0.24
1+2	5 GHz 802.11n HT40 for Ant. 1	89.32	920	1.09	3kHz	0.49
1+2	5 GHz 802.11n HT40 for Ant. 2	89.42	930	1.08	3kHz	0.49



MIMO <Ant. 1>

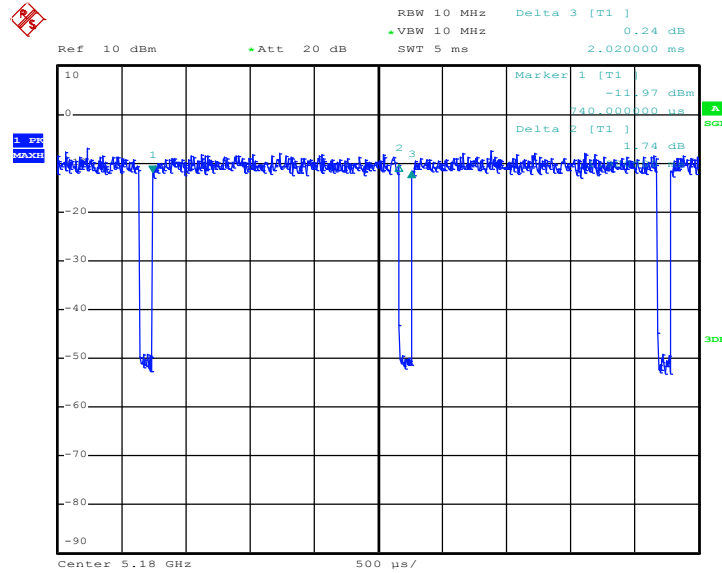
802.11a



Date: 20.JAN.2018 00:23:32

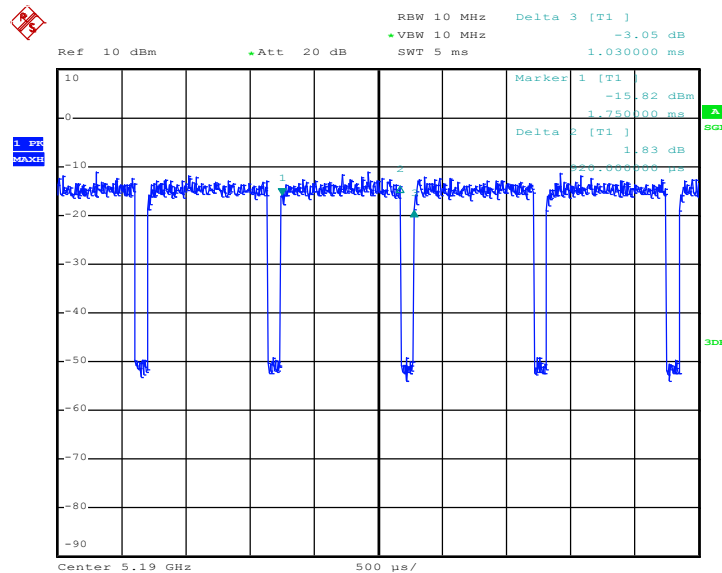


802.11n HT20



Date: 20.JAN.2018 00:28:21

802.11n HT40

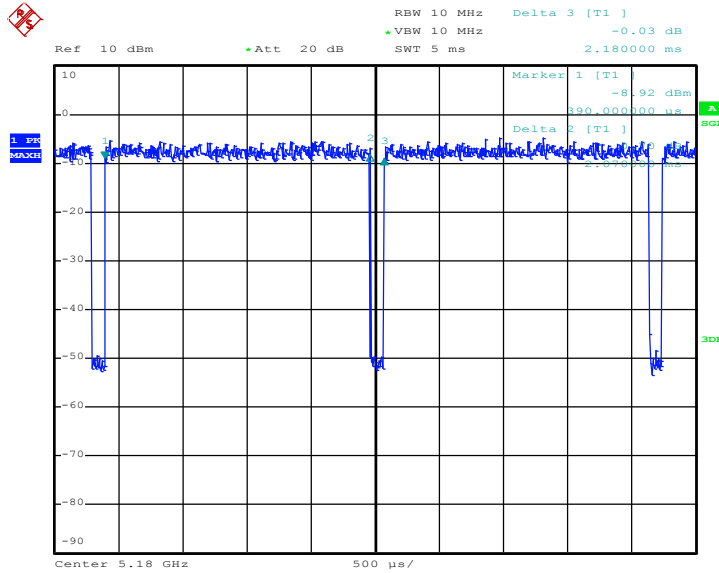


Date: 20.JAN.2018 00:30:45



MIMO <Ant. 2>

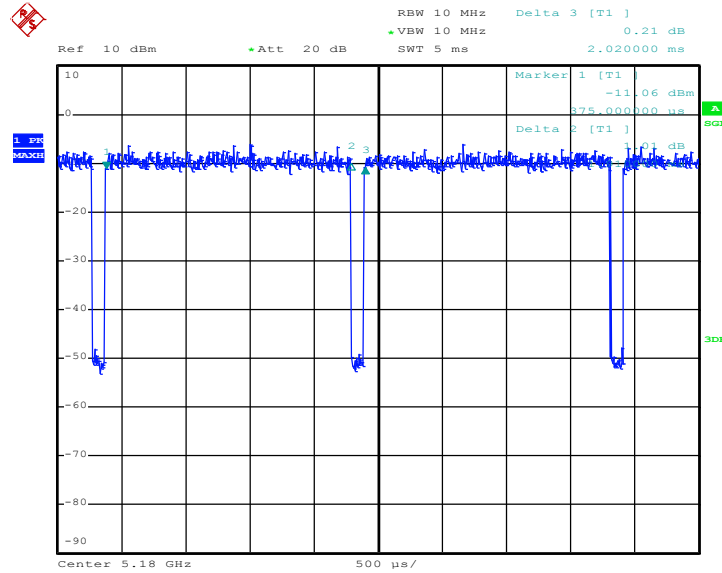
802.11a



Date: 20.JAN.2018 00:24:13

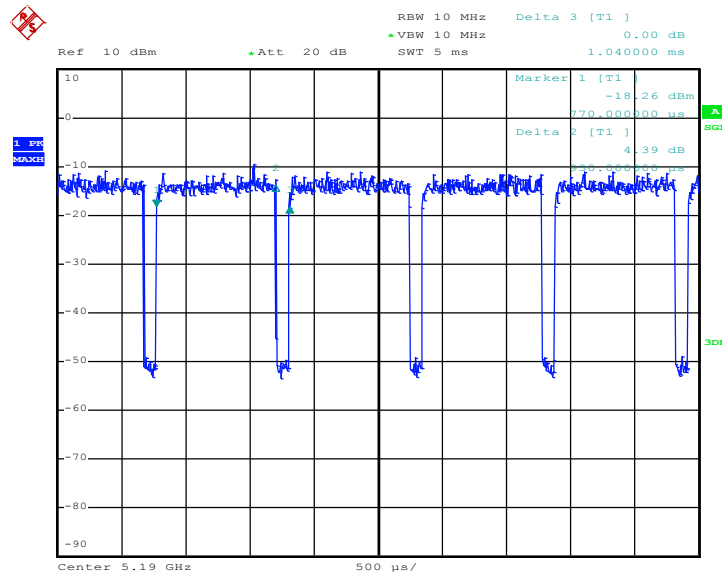


802.11n HT20



Date: 20.JAN.2018 00:28:52

802.11n HT40



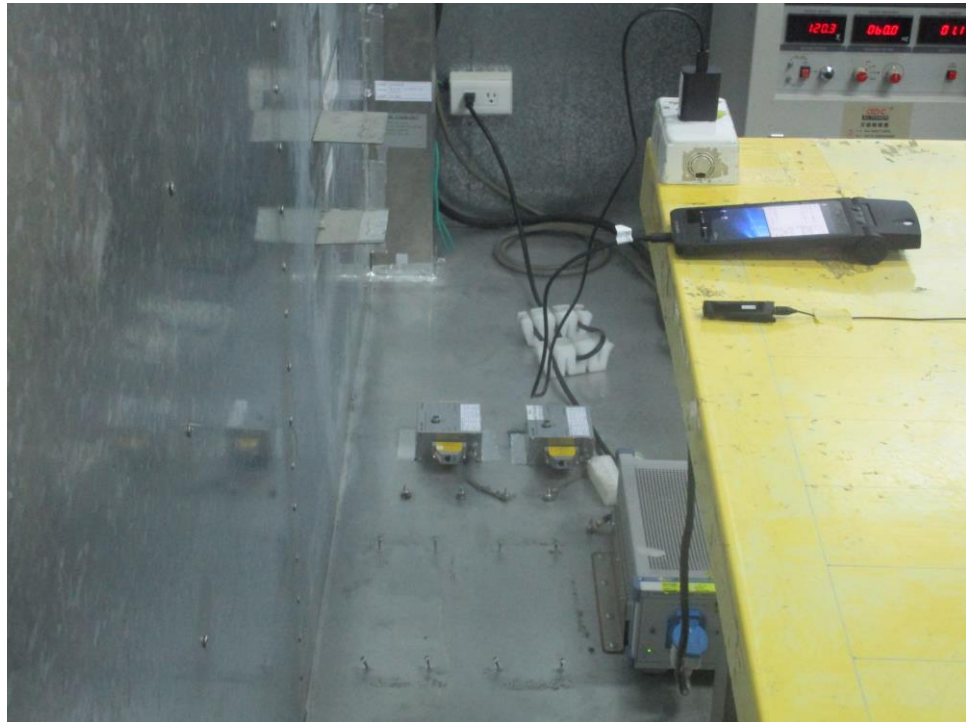
Date: 20.JAN.2018 00:31:49

## Appendix F. Setup Photographs

### <Conducted Emission>

Remote View





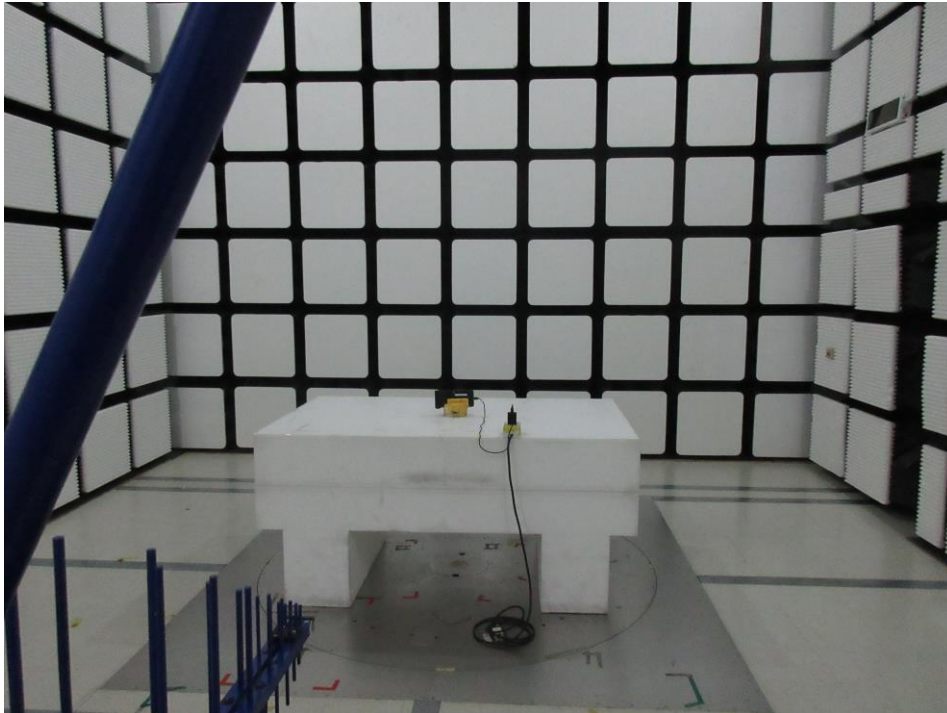
Rear View



<Radiated Emission>

Z Plane

LF



HF

