



# FCC RADIO TEST REPORT

**FCC ID** : P4Q-N672A  
**Equipment** : Smart Module  
**Brand Name** : MiTAC, Mio, NAVMAN, MAGELLAN  
**Model Name** : SC600T-WF  
**Applicant** : MiTAC Digital Technology Corporation  
4F., NO. 1, R&D ROAD 2, HSINCHU SCIENCE  
PARK, HSINCHU 30076, TAIWAN, R.O.C.  
**Manufacturer** : MITAC Computer (Kunshan) Co., Ltd.  
No. 269, 2nd Avenue, District A, Comprehensive  
Free Trade Zone, 300 Kunshan, China  
**Standard** : FCC Part 15 Subpart E §15.407

The product was received on Dec. 09, 2020 and testing was started from Dec. 25, 2020 and completed on Feb. 04, 2021. We, SPORTON INTERNATIONAL INC., EMC & Wireless Communications Laboratory, 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 partial report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

*Louis Wu*

Approved by: Louis Wu

**SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory**

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



## Table of Contents

History of this test report.....	3
Summary of Test Result.....	4
<b>1 General Description .....</b>	<b>5</b>
1.1 Product Feature of Equipment Under Test.....	5
1.2 Modification of EUT .....	7
1.3 Testing Location .....	7
1.4 Applicable Standards.....	7
<b>2 Test Configuration of Equipment Under Test .....</b>	<b>8</b>
2.1 Carrier Frequency and Channel .....	8
2.2 Test Mode.....	9
2.3 Connection Diagram of Test System.....	10
2.4 Support Unit used in test configuration and system .....	10
2.5 EUT Operation Test Setup .....	10
<b>3 Test Result .....</b>	<b>11</b>
3.1 Maximum Conducted Output Power Measurement .....	11
3.2 Unwanted Emissions Measurement.....	13
3.3 AC Conducted Emission Measurement.....	18
3.4 Antenna Requirements.....	20
<b>4 List of Measuring Equipment.....</b>	<b>21</b>
<b>5 Uncertainty of Evaluation .....</b>	<b>23</b>
<b>Appendix A. Conducted Test Results</b>	
<b>Appendix B. AC Conducted Emission Test Result</b>	
<b>Appendix C. Radiated Spurious Emission</b>	
<b>Appendix D. Radiated Spurious Emission Plots</b>	
<b>Appendix E. Duty Cycle Plots</b>	
<b>Appendix F. Setup Photographs</b>	





## Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
-	15.403(i)	26dB Bandwidth	-	See Note
-	2.1049	99% Occupied Bandwidth	-	See Note
3.1	15.407(a)	Maximum Conducted Output Power	Pass	-
-	15.407(a)	Power Spectral Density	-	See Note
3.2	15.407(b)	Unwanted Emissions	Pass	Under limit 0.45 dB at 5350.080 MHz
3.3	15.207	AC Conducted Emission	Pass	Under limit 16.56 dB at 0.568 MHz
-	15.407(c)	Automatically Discontinue Transmission	-	See Note
3.4	15.203 15.407(a)	Antenna Requirement	Pass	-

**Note:** The module (Model: SC600T-WF) makes no difference after verifying output power, this report reuses test data from the module report.

**Declaration of Conformity:**

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

**Comments and Explanations:**

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

**Reviewed by: Wii Chang**

**Report Producer: Cindy Liu**



# 1 General Description

## 1.1 Product Feature of Equipment Under Test

Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n, and Wi-Fi 5GHz 802.11a/n/ac.

Product Specification subjective to this standard	
Sample 1	EUT with Host 1
Sample 2	EUT with Host 2
Antenna Type	WLAN: PIFA Antenna Bluetooth: PIFA Antenna

Antenna information		
5150 MHz ~ 5250 MHz	Peak Gain (dBi)	-0.1
5250 MHz ~ 5350 MHz	Peak Gain (dBi)	1.2
5470 MHz ~ 5725 MHz	Peak Gain (dBi)	1.3

**Remark:** The above EUT's information was declared by manufacturer. Please refer to Comments and Explanations in report summary.

The product was installed into Tablet (Brand Name: MiTAC, Mio, NAVMAN, MAGELLAN, Model Name: N672A) during test, and the host information was recorded in the following table.

Host Information	
Host 1	Host with SKU A
Host 2	Host with SKU B

Host Sample Information		
Functions	SKU A	SKU B
Screen	5" 720x1280 (HD), IPS, 350nits (w/ touch)	5" 720x1280 (HD), IPS, 350nits (w/ touch)
CPU	SD625 octa core 2.0GHz	SD625 octa core 2.0GHz
battery	4110mAh (hard pack),	4110mAh (hard pack)
RAM	3GB	3GB
Storage	32GB	32GB
External storage	Support	Support
WLAN Module	Support (SC600T-WF)	Support (SC600T-WF)
NFC/RFID(HF)	Support	Support
GPS	Not Support	Not Support
Barcode	Support(N6603)	Support (N3601)



Host Sample Information		
Functions	SKU D	SKU E
Screen	5" 720x1280 (HD), IPS, 350nits (w/ touch)	5" 720x1280 (HD), IPS, 350nits (w/ touch)
CPU	SD625 octa core 2.0GHz	SD625 octa core 2.0GHz
battery	4110mAh (hard pack),	4110mAh (hard pack),
RAM	2GB	2GB
Storage	16GB	16GB
External storage	Support	Support
WLAN Module	Support (SC600T-WF)	Support (SC600T-WF)
NFC/RFID(HF)	Support	Support
GPS	Not Support	Not Support
Barcode	Support(N6603)	Support(N3601)

Host Sample Information	
Functions	SKU F
Screen	5" 720x1280 (HD), IPS, 350nits (w/ touch)
CPU	SD625 octa core 2.0GHz
battery	4110mAh (hard pack),
RAM	2GB
Storage	16GB
External storage	Support
WLAN Module	Support (SC600T-WF)
NFC/RFID(HF)	Support
GPS	Not Support
Barcode	Not Support



## 1.2 Modification of EUT

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

## 1.3 Testing Location

<b>Test Site</b>	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
<b>Test Site Location</b>	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan 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.

FCC designation No.: TW1190

## 1.4 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 414788 D01 Radiated Test Site 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. The TAF code is not including all the FCC KDB listed without accreditation.



## 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 (X 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)
5150-5250 MHz Band 1 (U-NII-1)	36	5180	44	5220
	38*	5190	46*	5230
	40	5200	48	5240
	42 <sup>#</sup>	5210		

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5250-5350 MHz Band 2 (U-NII-2A)	52	5260	60	5300
	54*	5270	62*	5310
	56	5280	64	5320
	58 <sup>#</sup>	5290		

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5470-5725 MHz Band 3 (U-NII-2C)	100	5500	112	5560
	102*	5510	116	5580
	104	5520	132	5660
	106 <sup>#</sup>	5530	134*	5670
	108	5540	136	5680
	110*	5550	140	5700

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
TDWR Channel	118*	5590	124	5620
	120	5600	126*	5630
	122 <sup>#</sup>	5610	128	5640

**Note:**

1. The above Frequency and Channel in "\*" were 802.11n HT40 and 802.11ac VHT40.
2. The above Frequency and Channel in "<sup>#</sup>" were 802.11ac VHT80.





## 2.2 Test Mode

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

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

Test Cases	
AC Conducted Emission	Mode 1 : WLAN (5GHz) Link + Bluetooth Link + H-Pattern + Battery + Earphone + USB Cable (Charging from Adapter) for Sample 1

Ch. #		Band I : 5150-5250 MHz	Band III : 5470-5725MHz
		802.11a	802.11n HT20
L	Low	36	100
M	Middle	-	-
H	High	-	-

Ch. #		Band I : 5150-5250 MHz	Band III : 5470-5725MHz
		802.11n HT40	802.11n HT40
L	Low	38	102
M	Middle	-	-
H	High	-	-

Ch. #		Band II : 5250-5350 MHz	Band III : 5470-5725MHz
		802.11ac VHT80	802.11ac VHT80
L	Low	-	106
M	Middle	58	-
H	High	-	-

**Remark:** For radiation spurious emission, the final modulation and the worst data rate was reference the max RF conducted power.

### 2.3 Connection Diagram of Test System



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

Item	Equipment	Brand 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, 1.8 m
3.	Notebook	Dell	Latitude 3400	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	iPod Earphone	Apple	N/A	Verification	Unshielded, 1.0 m	N/A

### 2.5 EUT Operation Test Setup

The RF test items, utility “QRCT Ver.3.0.297.0” 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.



### 3 Test Result

#### 3.1 Maximum Conducted Output Power Measurement

##### 3.1.1 Limit of Maximum Conducted Output Power

<FCC 14-30 CFR 15.407>

**For the 5.15–5.25 GHz bands:**

■ For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW. For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

**For the 5.25–5.725 GHz bands:**

■ The maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz.

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

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

##### 3.1.2 Measuring Instruments

See list of measuring equipment of this test report.

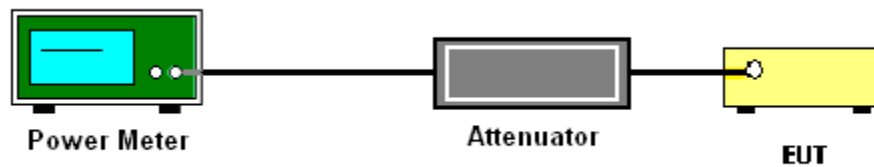
### 3.1.3 Test Procedures

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

Method PM-G (Measurement using a gated RF average power meter):

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit at its maximum power control level.
3. Measure the average power of the transmitter.
4. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

### 3.1.4 Test Setup



### 3.1.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.



### 3.2 Unwanted Emissions Measurement

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

#### <Limit of Unwanted Emissions>

- (1) For transmitters operating in the 5150-5250 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27dBm/MHz.

For transmitters operating in the 5250-5350 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5250-5350 MHz band that generate emissions in the 5150-5250 MHz band must meet all applicable technical requirements for operation in the 5150-5250 MHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5150-5250 MHz band.

For transmitters operating in the 5470-5600 MHz and 5650-5725MHz band: all emissions outside of the 5470-5600 MHz and 5650-5725MHz band shall not exceed an EIRP of -27 dBm/MHz.

- (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.

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



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

(3) KDB789033 D02 v02r01 G)2)c)

(i) Sections 15.407(b)(1-3) specifies the unwanted emissions limit 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.

(ii) Section 15.407(b)(4) specifies the unwanted emissions limit for the U-NII-3 band. A band emissions mask is specified in Section 15.407(b)(4)(i). The emission limits are based on the use of a peak detector.

### 3.2.1 Measuring Instruments

See list of measuring equipment of this test report.

### 3.2.2 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 ≥ 3 MHz
- Detector = Peak
- Sweep time = auto
- Trace mode = max hold

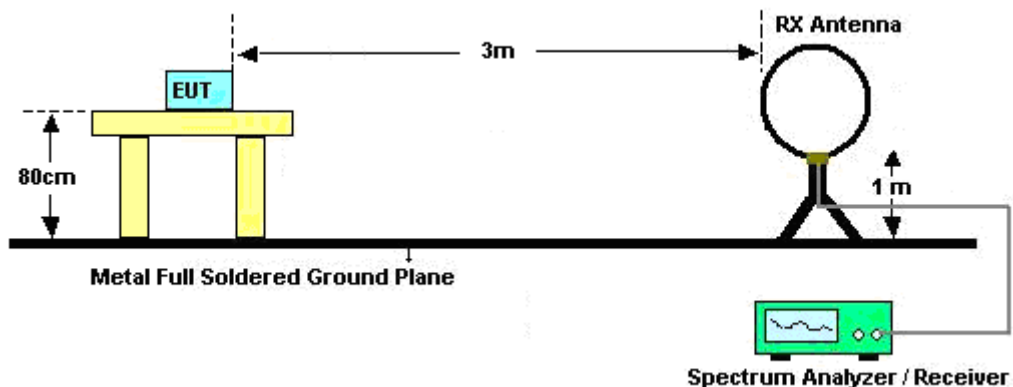
(3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

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

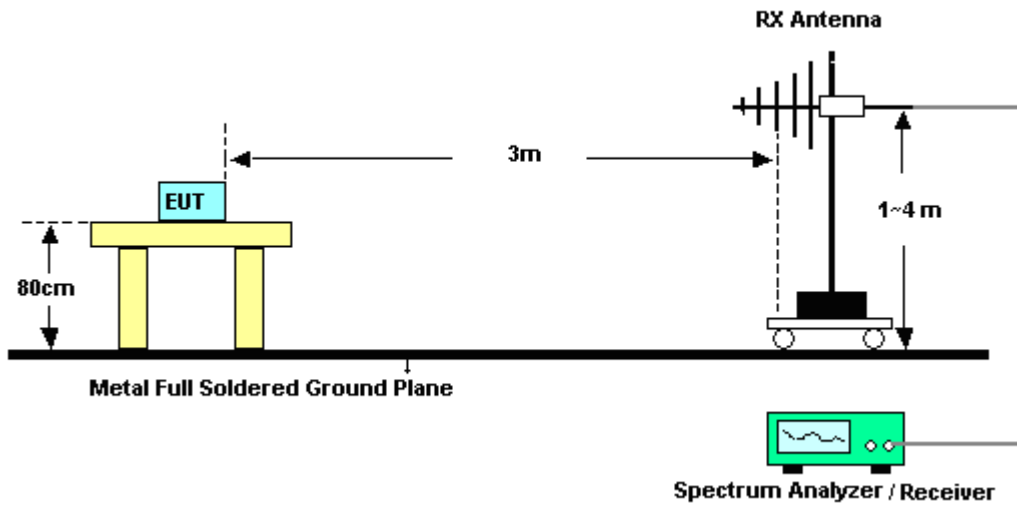
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband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

### 3.2.3 Test Setup

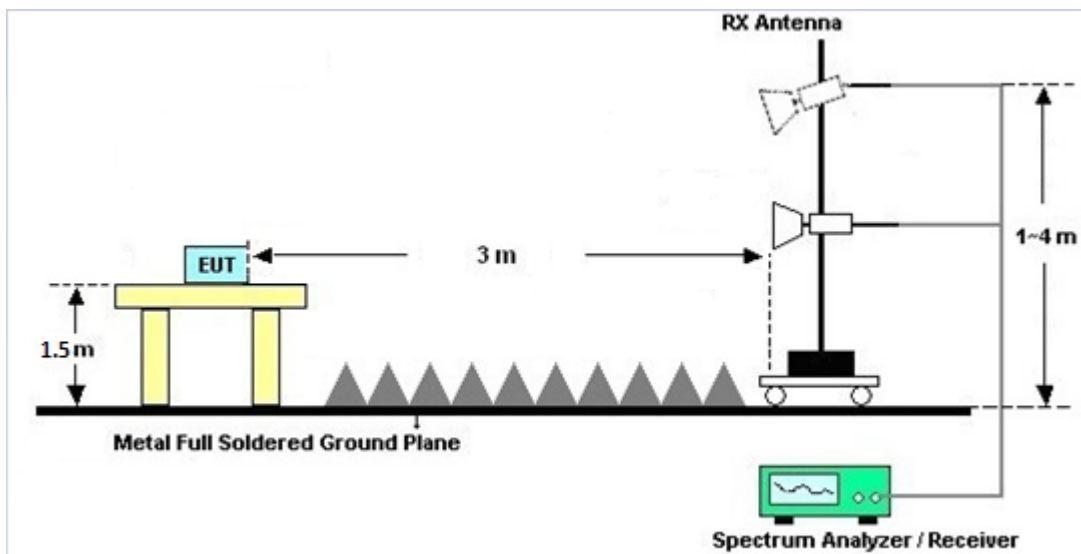
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz

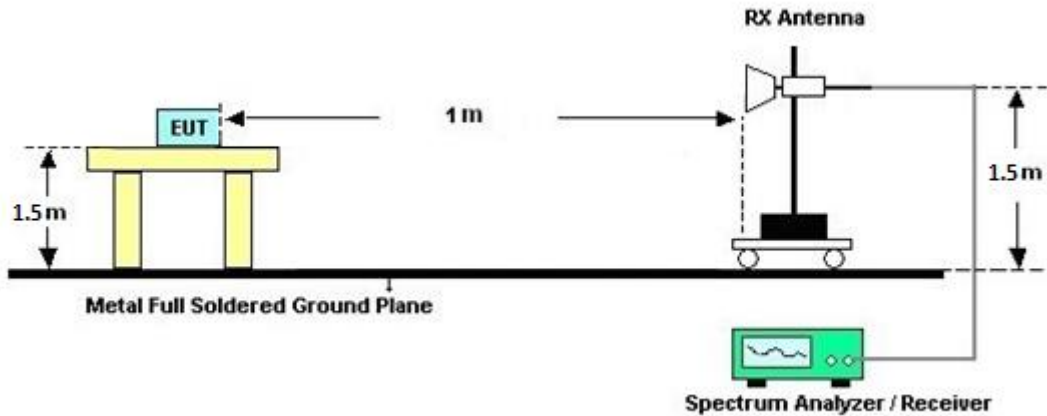


For radiated test from 1GHz to 18GHz





For radiated test above 18GHz



### 3.2.4 Test Results of Radiated Spurious 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 alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

### 3.2.5 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C and D.

### 3.2.6 Duty Cycle

Please refer to Appendix E.

### 3.2.7 Test Result of Radiated Spurious Emissions (30MHz ~ 10th Harmonic)

Please refer to Appendix C and D.



### 3.3 AC Conducted Emission Measurement

#### 3.3.1 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.

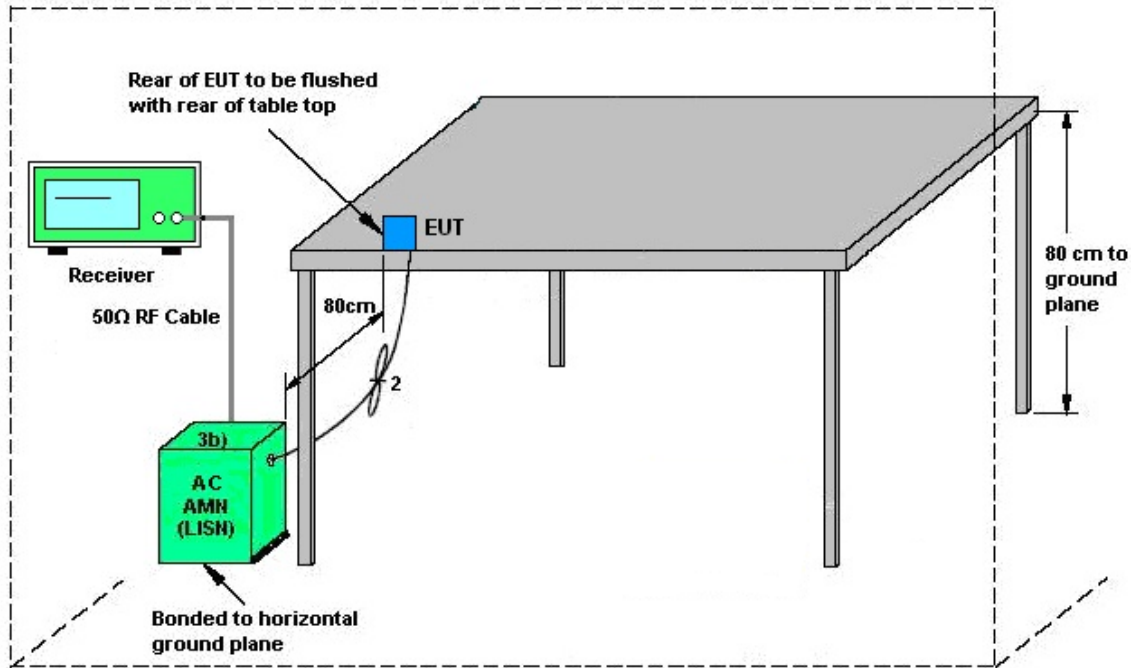
#### 3.3.2 Measuring Instruments

See list of measuring equipment of this test report.

#### 3.3.3 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.

### 3.3.4 Test Setup



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

### 3.3.5 Test Result of AC Conducted Emission

Please refer to Appendix B.



## **3.4 Antenna Requirements**

### **3.4.1 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.

### **3.4.2 Antenna Anti-Replacement Construction**

An embedded-in antenna design is used.

### **3.4.3 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	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Jan. 04, 2021	Jan. 06, 2021~ Feb. 04, 2021	Jan. 03, 2022	Radiation (03CH07-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N- 06	35419 & 03	30MHz~1GHz	Apr. 29, 2020	Jan. 06, 2021~ Feb. 04, 2021	Apr. 28, 2021	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Dec. 01, 2020	Jan. 06, 2021~ Feb. 04, 2021	Nov. 30, 2021	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZB ECK	BBHA 9170	BBHA9170251	18GHz~40GHz	Dec. 02, 2020	Jan. 06, 2021~ Feb. 04, 2021	Dec. 01, 2021	Radiation (03CH07-HY)
EMI Test Receiver	Agilent	N9038A(MXE)	MY53290053	20Hz~26.5GHz	May 21, 2020	Jan. 06, 2021~ Feb. 04, 2021	May 20, 2021	Radiation (03CH07-HY)
Spectrum Analyzer	Agilent	N9030A	MY52350276	3Hz~44GHz	Jun. 09, 2020	Jan. 06, 2021~ Feb. 04, 2021	Jun. 08, 2021	Radiation (03CH07-HY)
Preamplifier	COM-POWE R	PA-103A	161241	10MHz~1GHz	May 19, 2020	Jan. 06, 2021~ Feb. 04, 2021	May 18, 2021	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-001018 00-30-10P	1590075	1GHz~18GHz	Apr. 23, 2020	Jan. 06, 2021~ Feb. 04, 2021	Apr. 22, 2021	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1GHz~26.5GHz	Oct. 31, 2020	Jan. 06, 2021~ Feb. 04, 2021	Oct. 30, 2021	Radiation (03CH07-HY)
Preamplifier	EMEC	EM18G40G	0600789	18GHz~40GHz	Jul. 31, 2020	Jan. 06, 2021~ Feb. 04, 2021	Jul. 30, 2021	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2858/2,8016 06/2	18GHz~40GHz	Feb. 25, 2020	Jan. 06, 2021~ Feb. 04, 2021	Feb. 24, 2021	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY24971/4, MY28655/4	9kHz~30MHz	Feb. 25, 2020	Jan. 06, 2021~ Feb. 04, 2021	Feb. 24, 2021	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY28655/4, MY24971/4, MY15682/4	30MHz~1GHz	Feb. 25, 2020	Jan. 06, 2021~ Feb. 04, 2021	Feb. 24, 2021	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY28655/4, MY24971/4, MY15682/4	1GHz~18GHz	Feb. 25, 2020	Jan. 06, 2021~ Feb. 04, 2021	Feb. 24, 2021	Radiation (03CH07-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	801606/2	9KHz ~ 40GHz	N/A	Jan. 06, 2021~ Feb. 04, 2021	N/A	Radiation (03CH07-HY)
Antenna Mast	Max-Full	MFA520BS	N/A	1m~4m	N/A	Jan. 06, 2021~ Feb. 04, 2021	N/A	Radiation (03CH07-HY)
Turn Table	ChainTek	Chaintek 3000	N/A	0~360 Degree	N/A	Jan. 06, 2021~ Feb. 04, 2021	N/A	Radiation (03CH07-HY)
USB Data Logger	TECPEL	TR-32	HE17XB2495	N/A	N/A	Jan. 06, 2021~ Feb. 04, 2021	N/A	Radiation (03CH07-HY)
Software	Audix	E3 6.2009-8-24	N/A	N/A	N/A	Jan. 06, 2021~ Feb. 04, 2021	N/A	Radiation (03CH07-HY)



Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Dec. 25, 2020	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102317	9kHz~3.6GHz	Sep. 11, 2020	Dec. 25, 2020	Sep. 10, 2021	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	Nov. 18, 2020	Dec. 25, 2020	Nov. 17, 2021	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Nov. 16, 2020	Dec. 25, 2020	Nov. 15, 2021	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Dec. 25, 2020	N/A	Conduction (CO05-HY)
LF Cable	HUBER + SUHNER	RG-214/U	LF01	N/A	Jan. 02, 2020	Dec. 25, 2020	Jan. 01, 2021	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Jan. 02, 2020	Dec. 25, 2020	Jan. 01, 2021	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34893241	N/A	Mar. 02, 2020	Dec. 30, 2020	Mar. 01, 2021	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	16I00054SNO12	10MHz~6GHz	Dec. 16, 2020	Dec. 30, 2020	Dec. 15, 2021	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101566	10Hz ~ 40GHz	Jul. 22, 2020	Dec. 30, 2020	Jul. 21, 2021	Conducted (TH05-HY)
Switch Box & RF Cable	EM Electronics	EMSW18SE	SW200302	N/A	Mar. 17, 2020	Dec. 30, 2020	Mar. 16, 2021	Conducted (TH05-HY)



## 5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	2.3
---	-----

### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	4.7
---	-----

### Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	5.3
---	-----

### Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	5.0
---	-----

**Appendix A. Test Result of Conducted Test Items**

Test Engineer:	Jacob Yu	Temperature:	22.6	°C
Test Date:	2020/12/30	Relative Humidity:	56.3	%



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

FCC Band I single antenna													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)			Pass/Fail
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	36	5180	12.90	-		24.00	-	-0.10	-		Pass
11a	6Mbps	1	44	5220	13.20	-		24.00	-	-0.10	-		Pass
11a	6Mbps	1	48	5240	12.80	-		24.00	-	-0.10	-		Pass
HT20	MCS0	1	36	5180	13.00	-		24.00	-	-0.10	-		Pass
HT20	MCS0	1	44	5220	13.10	-		24.00	-	-0.10	-		Pass
HT20	MCS0	1	48	5240	13.00	-		24.00	-	-0.10	-		Pass
HT40	MCS0	1	38	5190	13.20	-		24.00	-	-0.10	-		Pass
HT40	MCS0	1	46	5230	12.80	-		24.00	-	-0.10	-		Pass
VHT20	MCS0	1	36	5180	12.70	-		24.00	-	-0.10	-		Pass
VHT20	MCS0	1	44	5220	12.90	-		24.00	-	-0.10	-		Pass
VHT20	MCS0	1	48	5240	12.60	-		24.00	-	-0.10	-		Pass
VHT40	MCS0	1	38	5190	12.60	-		24.00	-	-0.10	-		Pass
VHT40	MCS0	1	46	5230	12.70	-		24.00	-	-0.10	-		Pass
VHT80	MCS0	1	42	5210	12.40	-		24.00	-	-0.10	-		Pass

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

FCC Band II single antenna													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	52	5260	13.00	-		23.98	-	1.20	-	26.99	Pass
11a	6Mbps	1	60	5300	13.00	-		23.98	-	1.20	-	26.99	Pass
11a	6Mbps	1	64	5320	12.70	-		23.98	-	1.20	-	26.99	Pass
HT20	MCS0	1	52	5260	12.80	-		23.98	-	1.20	-	26.99	Pass
HT20	MCS0	1	60	5300	13.10	-		23.98	-	1.20	-	26.99	Pass
HT20	MCS0	1	64	5320	13.00	-		23.98	-	1.20	-	26.99	Pass
HT40	MCS0	1	54	5270	12.90	-		23.98	-	1.20	-	26.99	Pass
HT40	MCS0	1	62	5310	12.70	-		23.98	-	1.20	-	26.99	Pass
VHT20	MCS0	1	52	5260	12.60	-		23.98	-	1.20	-	26.99	Pass
VHT20	MCS0	1	60	5300	12.70	-		23.98	-	1.20	-	26.99	Pass
VHT20	MCS0	1	64	5320	12.90	-		23.98	-	1.20	-	26.99	Pass
VHT40	MCS0	1	54	5270	12.70	-		23.98	-	1.20	-	26.99	Pass
VHT40	MCS0	1	62	5310	12.60	-		23.98	-	1.20	-	26.99	Pass
VHT80	MCS0	1	58	5290	12.80	-		23.98	-	1.20	-	26.99	Pass

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

FCC Band III single antenna													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	100	5500	12.80	-		23.98	-	1.30	-	26.99	Pass
11a	6Mbps	1	116	5580	12.60	-		23.98	-	1.30	-	26.99	Pass
11a	6Mbps	1	140	5700	12.60	-		23.98	-	1.30	-	26.99	Pass
HT20	MCS0	1	100	5500	12.90	-		23.98	-	1.30	-	26.99	Pass
HT20	MCS0	1	116	5580	12.70	-		23.98	-	1.30	-	26.99	Pass
HT20	MCS0	1	140	5700	12.80	-		23.98	-	1.30	-	26.99	Pass
HT40	MCS0	1	102	5510	13.10	-		23.98	-	1.30	-	26.99	Pass
HT40	MCS0	1	110	5550	12.70	-		23.98	-	1.30	-	26.99	Pass
HT40	MCS0	1	134	5670	12.90	-		23.98	-	1.30	-	26.99	Pass
VHT20	MCS0	1	100	5500	12.80	-		23.98	-	1.30	-	26.99	Pass
VHT20	MCS0	1	116	5580	12.60	-		23.98	-	1.30	-	26.99	Pass
VHT20	MCS0	1	140	5700	12.70	-		23.98	-	1.30	-	26.99	Pass
VHT40	MCS0	1	102	5510	13.00	-		23.98	-	1.30	-	26.99	Pass
VHT40	MCS0	1	110	5550	12.60	-		23.98	-	1.30	-	26.99	Pass
VHT40	MCS0	1	134	5670	12.80	-		23.98	-	1.30	-	26.99	Pass
VHT80	MCS0	1	106	5530	12.70	-		23.98	-	1.30	-	26.99	Pass



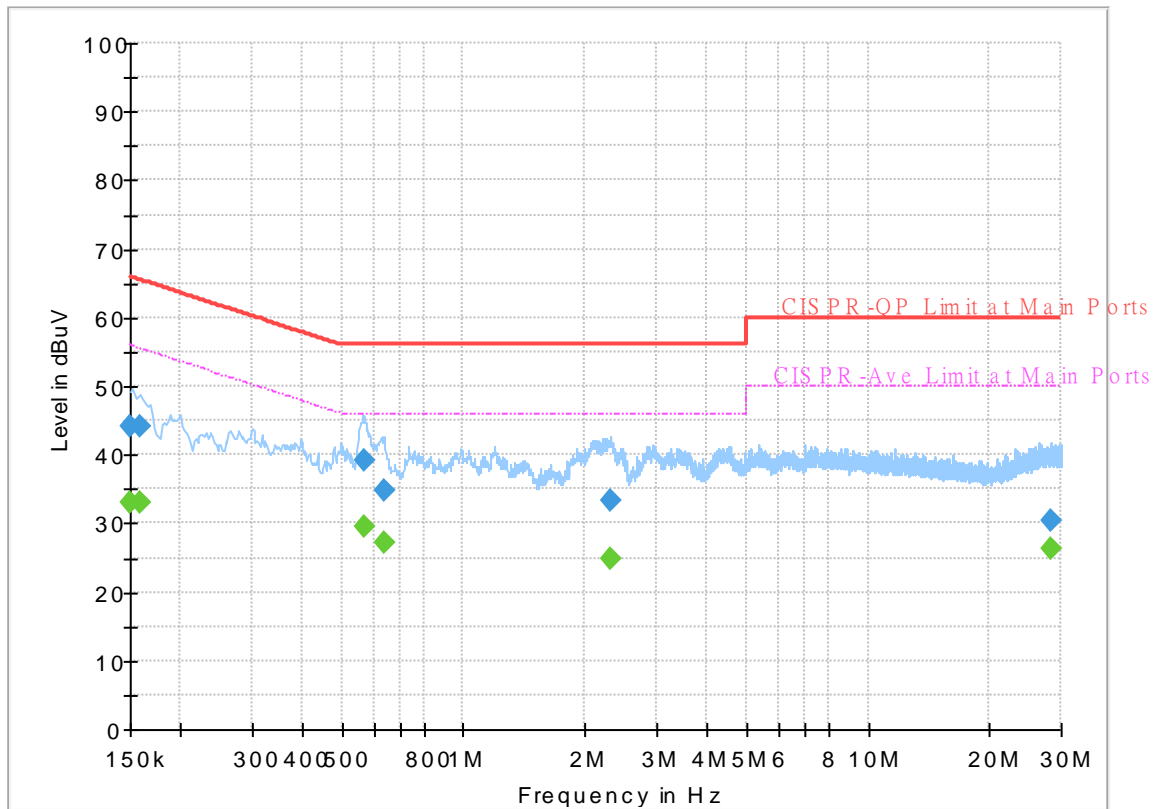
## Appendix B. AC Conducted Emission Test Results

Test Engineer :	Tom Lee	Temperature :	23~26°C
		Relative Humidity :	40~50%

# EUT Information

Test Mode : Mode 1  
 Test Voltage : 120Vac/60Hz  
 Phase : Line

Full Spectrum



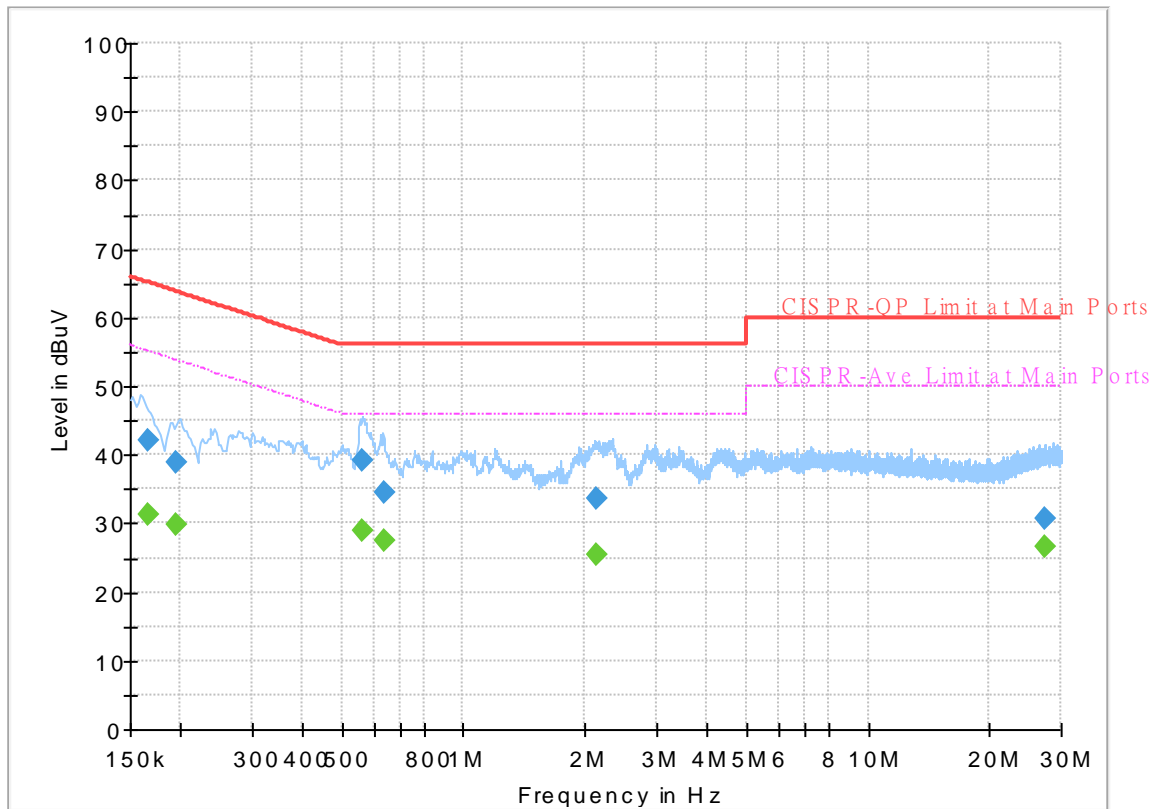
## Final\_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.150000	44.20	---	66.00	21.80	L1	OFF	19.6
0.150000	---	33.03	56.00	22.97	L1	OFF	19.6
0.159000	44.17	---	65.52	21.35	L1	OFF	19.6
0.159000	---	32.94	55.52	22.58	L1	OFF	19.6
0.567510	39.07	---	56.00	16.93	L1	OFF	19.6
0.567510	---	29.44	46.00	16.56	L1	OFF	19.6
0.636540	34.71	---	56.00	21.29	L1	OFF	19.6
0.636540	---	27.18	46.00	18.82	L1	OFF	19.6
2.308200	33.24	---	56.00	22.76	L1	OFF	19.7
2.308200	---	24.98	46.00	21.02	L1	OFF	19.7
28.261500	30.45	---	60.00	29.55	L1	OFF	20.5
28.261500	---	26.39	50.00	23.61	L1	OFF	20.5

# EUT Information

Test Mode : Mode 1  
 Test Voltage : 120Vac/60Hz  
 Phase : Neutral

Full Spectrum



## Final\_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.165300	---	31.25	55.19	23.94	N	OFF	19.6
0.165300	42.09	---	65.19	23.10	N	OFF	19.6
0.195090	---	29.81	53.82	24.01	N	OFF	19.6
0.195090	38.81	---	63.82	25.01	N	OFF	19.6
0.560940	---	28.86	46.00	17.14	N	OFF	19.6
0.560940	39.09	---	56.00	16.91	N	OFF	19.6
0.637890	---	27.36	46.00	18.64	N	OFF	19.6
0.637890	34.57	---	56.00	21.43	N	OFF	19.6
2.123250	---	25.30	46.00	20.70	N	OFF	19.7
2.123250	33.64	---	56.00	22.36	N	OFF	19.7
27.446190	---	26.53	50.00	23.47	N	OFF	20.6
27.446190	30.64	---	60.00	29.36	N	OFF	20.6



### Appendix C. Radiated Spurious Emission

Test Engineer :	Jesse Wang, Stan Hsieh and Ken Wu	Temperature :	20~24°C
		Relative Humidity :	53~59%

<Sample 1>

**Band 2 - 5250~5350MHz**

**WIFI 802.11ac VHT80 (Band Edge @ 3m)**

WIFI Ant. 1	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )
802.11ac VHT80 CH 58 5290MHz		5086.1	48.08	-25.92	74	37.76	34.13	11.5	35.31	100	68	P	H
		5125.65	41.86	-12.14	54	31.41	34.2	11.54	35.29	100	68	A	H
	*	5290	97.14	-	-	86.24	34.43	11.69	35.22	100	68	P	H
	*	5290	91.22	-	-	80.32	34.43	11.69	35.22	100	68	A	H
		5356.8	60.87	-13.13	74	49.89	34.4	11.76	35.18	100	68	P	H
		5350.56	53.47	-0.53	54	42.49	34.4	11.76	35.18	100	68	A	H
		5055.65	49.29	-24.71	74	39.07	34.07	11.48	35.33	341	99	P	V
		5098	41.49	-12.51	54	31.08	34.2	11.51	35.3	341	99	A	V
	*	5290	93.61	-	-	82.71	34.43	11.69	35.22	341	99	P	V
	*	5290	86.74	-	-	75.84	34.43	11.69	35.22	341	99	A	V
		5359.2	53.24	-20.76	74	42.25	34.4	11.77	35.18	341	99	P	V
	5350.56	46.25	-7.75	54	35.27	34.4	11.76	35.18	341	99	A	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**Band 2 5250~5350MHz  
WIFI 802.11ac VHT80 (Harmonic @ 3m)**

WIFI Ant. 1	Note	Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level (dBµV)	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)	
802.11ac VHT80 CH 58 5290MHz		10580	42.06	-26.14	68.2	45.55	37.6	17.8	58.89	100	0	P	H	
		15870	46.47	-27.53	74	40.6	40.78	21.81	56.72	100	0	P	H	
													H	
													H	
			10580	41.88	-26.32	68.2	45.37	37.6	17.8	58.89	100	0	P	V
			15870	45.38	-28.62	74	39.51	40.78	21.81	56.72	100	0	P	V
														V
													V	
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.													





Emission above 18GHz

5GHz WIFI 802.11ac VHT80 (SHF)

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		( MHz )	( dBμV/m )	( dB )	( dBμV/m )	( dBμV )	( dB/m )	( dB )	( dB )	( cm )	( deg )	( P/A )	( H/V )
5GHz 802.11ac VHT80 SHF		38614	41.56	-32.44	74	46.61	44.27	11.57	60.89	100	0	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
			39978	41.53	-32.47	74	43.6	44.28	12.1	58.45	100	0	P
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against limit line.												





<Sample 2>

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

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.	
1		( MHz )	( dBμV/m )	( dB )	( dBμV/m )	( dBμV )	( dB/m )	( dB )	( dB )	( cm )	( deg )	( P/A )	( H/V )	
802.11a CH 36 5180MHz		5127.14	50.65	-23.35	74	40.2	34.2	11.54	35.29	100	65	P	H	
		5127.92	42.16	-11.84	54	31.71	34.2	11.54	35.29	100	65	A	H	
	*	5180	104.29	-	-	93.71	34.27	11.58	35.27	100	65	P	H	
	*	5180	96.06	-	-	85.48	34.27	11.58	35.27	100	65	A	H	
													H	
													H	
			5128.18	48.41	-25.59	74	37.96	34.2	11.54	35.29	400	89	P	V
			5149.5	40.17	-13.83	54	29.69	34.2	11.56	35.28	400	89	A	V
	*		5180	97.91	-	-	87.33	34.27	11.58	35.27	400	89	P	V
	*		5180	90.65	-	-	80.07	34.27	11.58	35.27	400	89	A	V
													V	
												V		
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.													



**Band 1 5150~5250MHz**

**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 )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)	
802.11a CH 36 5180MHz		10360	42.99	-25.21	68.2	46.82	37.57	17.63	59.03	100	0	P	H	
		15540	44.34	-29.66	74	39.2	40.27	21.64	56.77	100	0	P	H	
													H	
													H	
			10360	42.19	-26.01	68.2	46.02	37.57	17.63	59.03	100	0	P	V
			15540	44.13	-29.87	74	38.99	40.27	21.64	56.77	100	0	P	V
														V
														V
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.													



**Band 1 5150~5250MHz  
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 )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)
<b>802.11n HT40 CH 38 5190MHz</b>		5149.5	62.73	-11.27	74	52.25	34.2	11.56	35.28	100	65	P	H
		5150	52.27	-1.73	54	41.79	34.2	11.56	35.28	100	65	A	H
	*	5190	101.45	-	-	90.86	34.27	11.59	35.27	100	65	P	H
	*	5190	92.89	-	-	82.3	34.27	11.59	35.27	100	65	A	H
		5358.64	48.28	-25.72	74	37.29	34.4	11.77	35.18	100	65	P	H
		5459.44	40.27	-13.73	54	28.92	34.6	11.88	35.13	100	65	A	H
		5150	57.48	-16.52	74	47	34.2	11.56	35.28	399	98	P	V
		5150	45.67	-8.33	54	35.19	34.2	11.56	35.28	399	98	A	V
	*	5190	95.44	-	-	84.85	34.27	11.59	35.27	399	98	P	V
	*	5190	87.19	-	-	76.6	34.27	11.59	35.27	399	98	A	V
		5456.08	48.56	-25.44	74	37.22	34.6	11.87	35.13	399	98	P	V
		5420.8	40.12	-13.88	54	28.85	34.6	11.83	35.16	399	98	A	V
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**Band 1 5150~5250MHz  
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 )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)	
802.11n HT40 CH 38 5190MHz		10380	42.43	-25.77	68.2	46.22	37.58	17.65	59.02	100	0	P	H	
		15570	44.97	-29.03	74	39.84	40.23	21.67	56.77	100	0	P	H	
													H	
													H	
			10380	43.67	-24.53	68.2	47.46	37.58	17.65	59.02	100	0	P	V
			15570	44.13	-29.87	74	39	40.23	21.67	56.77	100	0	P	V
														V
														V
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.													



**Band 2 - 5250~5350MHz**

**WIFI 802.11ac VHT80 (Band Edge @ 3m)**

WIFI Ant. 1	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)
<b>802.11ac VHT80 CH 58 5290MHz</b>		5089.6	49.11	-24.89	74	38.71	34.2	11.51	35.31	100	71	P	H
		5134.75	42.15	-11.85	54	31.7	34.2	11.54	35.29	100	71	A	H
	*	5290	99.15	-	-	88.25	34.43	11.69	35.22	100	71	P	H
	*	5290	91.77	-	-	80.87	34.43	11.69	35.22	100	71	A	H
		5365.92	60.86	-13.14	74	49.8	34.47	11.77	35.18	100	71	P	H
		5350.08	53.55	-0.45	54	42.57	34.4	11.76	35.18	100	71	A	H
		5086.45	49.08	-24.92	74	38.76	34.13	11.5	35.31	383	88	P	V
		5120.75	42.47	-11.53	54	32.03	34.2	11.53	35.29	383	88	A	V
	*	5290	93.91	-	-	83.01	34.43	11.69	35.22	383	88	P	V
	*	5290	87.19	-	-	76.29	34.43	11.69	35.22	383	88	A	V
		5382.96	53.87	-20.13	74	42.72	34.53	11.79	35.17	383	88	P	V
	5380.8	45.62	-8.38	54	34.47	34.53	11.79	35.17	383	88	A	V	
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**Band 2 5250~5350MHz  
WIFI 802.11ac VHT80 (Harmonic @ 3m)**

WIFI Ant. 1	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)	
802.11ac VHT80 CH 58 5290MHz		10580	42.21	-25.99	68.2	45.7	37.6	17.8	58.89	100	0	P	H	
		15870	45.37	-28.63	74	39.5	40.78	21.81	56.72	100	0	P	H	
													H	
													H	
			10580	42.31	-25.89	68.2	45.8	37.6	17.8	58.89	100	0	P	V
			15870	45.37	-28.63	74	39.5	40.78	21.81	56.72	100	0	P	V
														V
													V	
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.													





**Band 3 - 5470~5725MHz**

**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 )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)	
802.11n HT20 CH 100 5500MHz		5446.64	49.46	-24.54	74	38.14	34.6	11.86	35.14	100	67	P	H	
		5469.04	48.97	-19.23	68.2	37.54	34.67	11.89	35.13	100	67	P	H	
		5448.08	43.51	-10.49	54	32.18	34.6	11.87	35.14	100	67	A	H	
	*	5500	102.77	-	-	91.16	34.8	11.93	35.12	100	67	P	H	
	*	5500	95.47	-	-	83.86	34.8	11.93	35.12	100	67	A	H	
														H
			5374.64	49.09	-24.91	74	38.01	34.47	11.78	35.17	335	91	P	V
			5461.52	49.54	-18.66	68.2	38.19	34.6	11.88	35.13	335	91	P	V
			5448.4	41.38	-12.62	54	30.05	34.6	11.87	35.14	335	91	A	V
	*		5500	99.8	-	-	88.19	34.8	11.93	35.12	335	91	P	V
	*		5500	93.03	-	-	81.42	34.8	11.93	35.12	335	91	A	V
														V
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.													



**Band 3 - 5470~5725MHz  
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 )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)	
802.11n HT20 CH 100 5500MHz		11000	43.32	-30.68	74	46.01	37.9	18.1	58.69	100	0	P	H	
		16500	48.13	-20.07	68.2	40.08	42.1	22.37	56.42	100	0	P	H	
													H	
													H	
			11000	42.83	-31.17	74	45.52	37.9	18.1	58.69	100	0	P	V
			16500	47.25	-20.95	68.2	39.2	42.1	22.37	56.42	100	0	P	V
														V
														V
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.													



**Band 3 - 5470~5725MHz**  
**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 )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )
802.11n HT40 CH 102 5510MHz		5451.52	49.78	-24.22	74	38.44	34.6	11.87	35.13	100	96	P	H
		5469.28	58.5	-9.7	68.2	47.07	34.67	11.89	35.13	100	96	P	H
		5458.48	43.82	-10.18	54	32.47	34.6	11.88	35.13	100	96	A	H
	*	5510	101.18	-	-	89.56	34.8	11.94	35.12	100	96	P	H
	*	5510	91.91	-	-	80.29	34.8	11.94	35.12	100	96	A	H
		5761.85	47.35	-20.85	68.2	35.48	34.73	12.31	35.17	100	96	P	H
		5437.36	47.87	-26.13	74	36.56	34.6	11.85	35.14	353	104	P	V
		5468.08	57.78	-10.42	68.2	46.35	34.67	11.89	35.13	353	104	P	V
		5459.44	41.77	-12.23	54	30.42	34.6	11.88	35.13	353	104	A	V
	*	5510	98.21	-	-	86.59	34.8	11.94	35.12	353	104	P	V
	*	5510	89.74	-	-	78.12	34.8	11.94	35.12	353	104	A	V
		5749.25	47.99	-20.21	68.2	36.17	34.7	12.29	35.17	353	104	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**Band 3 - 5470~5725MHz  
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 )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )
802.11n HT40		11020	43.97	-30.03	74	46.6	37.9	18.11	58.64	100	0	P	H
		16530	46.55	-21.65	68.2	38.57	42	22.39	56.41	100	0	P	H
													H
													H
CH 102 5510MHz		11020	43.75	-30.25	74	46.38	37.9	18.11	58.64	100	0	P	V
		16530	46.74	-21.46	68.2	38.76	42	22.39	56.41	100	0	P	V
													V
													V
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**Band 3 - 5470~5725MHz**  
**WIFI 802.11ac VHT80 (Band Edge @ 3m)**

WIFI Ant. 1	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)
<b>802.11ac VHT80 CH 106 5530MHz</b>		5459.92	55.75	-18.25	74	44.4	34.6	11.88	35.13	100	71	P	H
		5464.72	57.22	-10.98	68.2	45.8	34.67	11.88	35.13	100	71	P	H
		5459.2	49.16	-4.84	54	37.81	34.6	11.88	35.13	100	71	A	H
	*	5530	97.7	-	-	86.1	34.77	11.96	35.13	100	71	P	H
	*	5530	90.3	-	-	78.7	34.77	11.96	35.13	100	71	A	H
		5730.665	47.05	-21.15	68.2	35.26	34.7	12.26	35.17	100	71	P	H
		5457.28	48.7	-25.3	74	37.35	34.6	11.88	35.13	347	96	P	V
		5469.28	49.13	-19.07	68.2	37.7	34.67	11.89	35.13	347	96	P	V
		5458.96	43.35	-10.65	54	32	34.6	11.88	35.13	347	96	A	V
	*	5530	95.5	-	-	83.9	34.77	11.96	35.13	347	96	P	V
	*	5530	87.8	-	-	76.2	34.77	11.96	35.13	347	96	A	V
		5732.555	48.26	-19.94	68.2	36.47	34.7	12.26	35.17	347	96	P	V
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**Band 3 5470~5725MHz**

**WIFI 802.11ac VHT80 (Harmonic @ 3m)**

WIFI Ant. 1	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)	
802.11ac VHT80 CH 106 5530MHz		11060	43.97	-30.03	74	46.47	37.9	18.15	58.55	100	0	P	H	
		16590	46.16	-22.04	68.2	38.25	41.85	22.45	56.39	100	0	P	H	
													H	
													H	
			11060	43.71	-30.29	74	46.21	37.9	18.15	58.55	100	0	P	V
			16590	45.82	-22.38	68.2	37.91	41.85	22.45	56.39	100	0	P	V
														V
														V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.													



Emission above 18GHz

5GHz WIFI 802.11ac VHT80 (SHF)

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		( MHz )	( dBμV/m )	( dB )	( dBμV/m )	( dBμV )	( dB/m )	( dB )	( dB )	( cm )	( deg )	( P/A )	( H/V )
5GHz 802.11ac VHT80 SHF		39956	42.84	-31.16	74	44.99	44.26	12.09	58.5	100	0	P	H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
													H
			39802	41.69	-32.31	74	44.35	44.14	12.03	58.83	100	0	P
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



Emission below 1GHz  
5GHz WIFI 802.11ac VHT80 (LF)

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		( MHz )	( dBμV/m )	( dB )	( dBμV/m )	( dBμV )	( dB/m )	( dB )	( dB )	( cm )	( deg )	( P/A )	( H/V )	
5GHz 802.11ac VHT80 LF		139.89	29.41	-14.09	43.5	39.9	17.34	2.12	29.95	-	-	P	H	
		200.91	30.16	-13.34	43.5	42.5	14.99	2.6	29.93	-	-	P	H	
		221.43	32.53	-13.47	46	44.43	15.36	2.66	29.92	-	-	P	H	
		780.2	31.21	-14.79	46	27.89	27.8	5.01	29.49	-	-	P	H	
		879.6	33.29	-12.71	46	28.09	28.91	5.38	29.09	-	-	P	H	
		959.4	34.19	-11.81	46	26.77	30.41	5.66	28.65	100	0	P	H	
														H
														H
														H
														H
														H
														H
														H
														H
			30.27	30.81	-9.19	40	35.53	24.32	0.97	30.01	100	0	P	V
			35.94	26.9	-13.1	40	34.4	21.44	1.06	30	-	-	P	V
			60.51	25.58	-14.42	40	42.22	11.91	1.44	29.99	-	-	P	V
			885.2	32.21	-13.79	46	27.05	28.8	5.42	29.06	-	-	P	V
			927.9	33.65	-12.35	46	27.65	29.25	5.58	28.83	-	-	P	V
			956.6	34.27	-11.73	46	26.78	30.5	5.65	28.66	-	-	P	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		( 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

<b>Test Engineer :</b>	Jesse Wang, Stan Hsieh and Ken Wu	<b>Temperature :</b>	20~24°C
		<b>Relative Humidity :</b>	53~59%

### Note symbol

-L	Low channel location
-R	High channel location

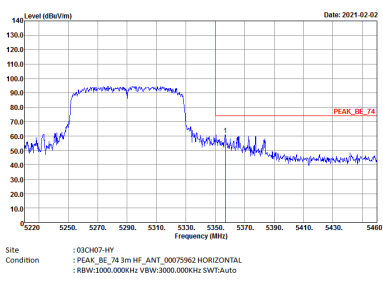
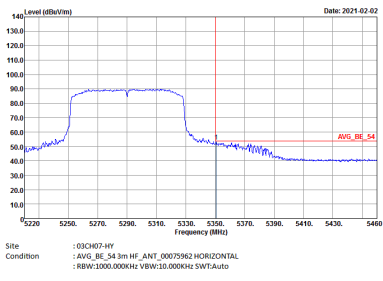


<Sample 1>

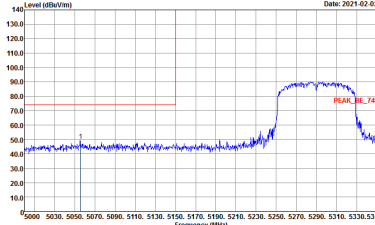
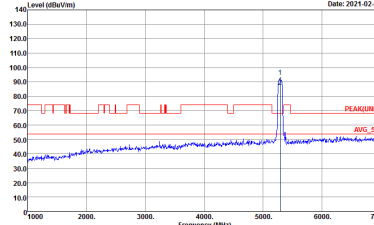
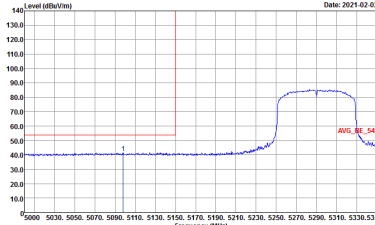
**Band 2 - 5250~5350MHz**  
**WIFI 802.11ac VHT80 (Band Edge @ 3m)**

WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - L	
1	Horizontal	Fundamental
<b>Peak</b>		
<b>Avg.</b>		<b>Left blank</b>



WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - R	
1	Horizontal	Fundamental
Peak	 <p>Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	Left blank
Avg.	 <p>Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 HORIZONTAL RBW:1000.000kHz VBW:10.000kHz SWT:Auto</p>	Left blank



WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - L	
1	Vertical	Fundamental
Peak	 <p>Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	 <p>Site : 03CH07-HY Condition : PEAK(LIN) 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
Avg.	 <p>Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:10.000kHz SWT:Auto</p>	Left blank



WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - R	
1	Vertical	Fundamental
Peak	<p>Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	Left blank
Avg.	<p>Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:10.000kHz SWT:Auto</p>	Left blank



**Band 2 - 5250~5350MHz**  
**WIFI 802.11ac VHT80 (Harmonic @ 3m)**

WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz	
1	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH07-HY Condition : PEAK(UNI) 3m HF_ANT_00075962 HORIZONTAL</p>	<p>Site : 03CH07-HY Condition : PEAK(UNI) 3m HF_ANT_00075962 VERTICAL</p>





Emission above 18GHz  
5GHz WIFI 802.11ac VHT80 (SHF)

WIFI	5GHz WIFI	
ANT	802.11ac VHT80 SHF	
1	Horizontal	Vertical
QP / Peak	<p>Site : 03CH07-HY Condition : PEAK_74 1m SHF-EHF_5170251 HORIZONTAL</p>	<p>Site : 03CH07-HY Condition : PEAK_74 1m SHF-EHF_5170251 VERTICAL</p>



Emission below 1GHz  
5GHz WIFI 802.11ac VHT80 (LF)

WIFI	5GHz WIFI	
ANT	802.11ac VHT80 LF	
1	Horizontal	Vertical
QP / Peak	<p>Site : 03CH07-HY Condition : 1-QP 3m LF-ANT-35413(6) HORIZONTAL</p>	<p>Site : 03CH07-HY Condition : 1-QP 3m LF-ANT-35413(6) VERTICAL</p>

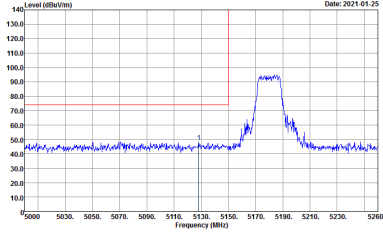
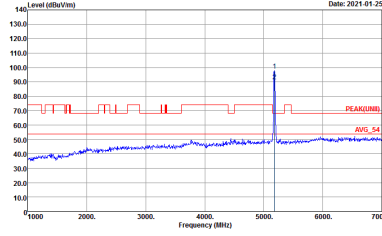
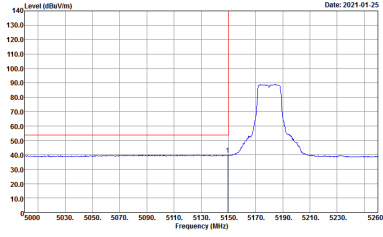


<Sample 2>

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

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
1	Horizontal	Fundamental
<b>Peak</b>	<p>Site Condition : 03CH07-HY : PEAK_BE_74 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWFAuto</p>	<p>Site Condition : 03CH07-HY : PEAK(FUN0) 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWFAuto</p>
<b>Avg.</b>	<p>Site Condition : 03CH07-HY : AVG_BE_S4 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:1.000kHz SWFAuto</p>	<b>Left blank</b>



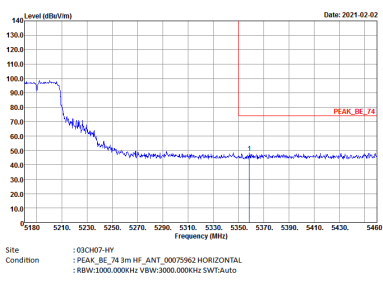
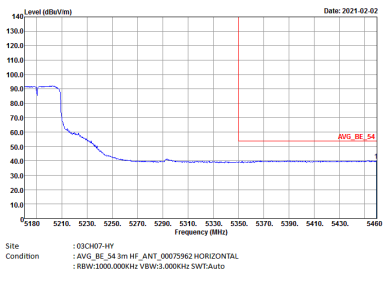
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
1	Vertical	Fundamental
Peak	 <p>Date: 2021-01-25</p> <p>Site Condition : 03CH07-HY : PEAK_BE_7a 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWF:Auto</p>	 <p>Date: 2021-01-25</p> <p>Site Condition : 03CH07-HY : PEAK(LNWI) 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWF:Auto</p>
Avg.	 <p>Date: 2021-01-25</p> <p>Site Condition : 03CH07-HY : AVG_BE_54 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:1.000kHz SWF:Auto</p>	Left blank



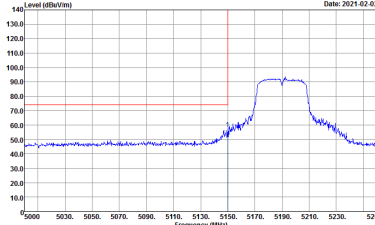
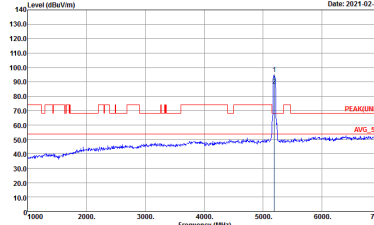
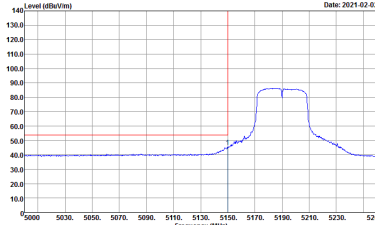
**Band 1 5150~5250MHz  
WIFI 802.11n HT40 (Band Edge @ 3m)**

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - L	
1	Horizontal	Fundamental
<b>Peak</b>	<p>Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	<p>Site : 03CH07-HY Condition : PEAK(LIN1) 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
<b>Avg.</b>	<p>Site : 03CH07-HY Condition : AVG_BE_34 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3.000kHz SWT:Auto</p>	<b>Left blank</b>



WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - R	
1	Horizontal	Fundamental
Peak	 <p>Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	Left blank
Avg.	 <p>Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3.000kHz SWT:Auto</p>	Left blank



WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - L	
1	Vertical	Fundamental
Peak	 <p>Date: 2021-02-02</p> <p>Site Condition : 03CH07-HY : PEAK_BE_74 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	 <p>Date: 2021-02-02</p> <p>Site Condition : 03CH07-HY : PEAK(LIN) 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
Avg.	 <p>Date: 2021-02-02</p> <p>Site Condition : 03CH07-HY : AVG_BE_54 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3.000kHz SWT:Auto</p>	Left blank



WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - R	
1	Vertical	Fundamental
Peak	<p>Site Condition : 03CH07-HP : PEAK_BE_74 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	Left blank
Avg.	<p>Site Condition : 03CH07-HP : AVG_BE_54 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3.000kHz SWT:Auto</p>	Left blank





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

<b>WIFI</b>	<b>Band 1 5150~5250MHz Harmonic @ 3m</b>	
<b>ANT</b>	<b>802.11a CH36 5180MHz</b>	
<b>1</b>	<b>Horizontal</b>	<b>Vertical</b>
<b>Peak Avg.</b>	<p>Site : 03CH07-HY          Condition : PEAK(LIN1) 3m HF_ANT_00075962 HORIZONTAL</p>	<p>Site : 03CH07-HY          Condition : PEAK(LIN1) 3m HF_ANT_00075962 VERTICAL</p>



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

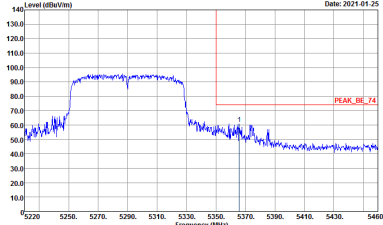
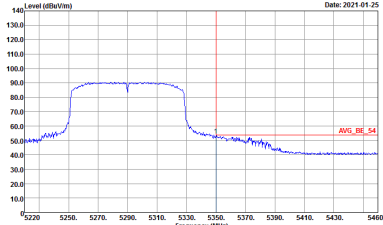
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT40 CH38 5190MHz	
1	Horizontal	Vertical
<b>Peak Avg.</b>	<p>Site : 09CH07-HY Condition : 1-PEAK(UWB) 3m HF_ANT_00075962 HORIZONTAL</p>	<p>Site : 09CH07-HY Condition : 1-PEAK(UWB) 3m HF_ANT_00075962 VERTICAL</p>



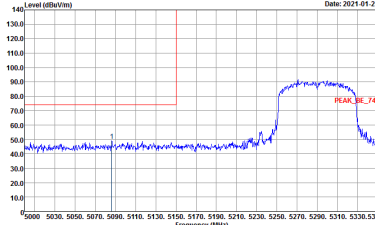
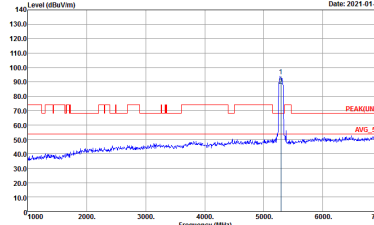
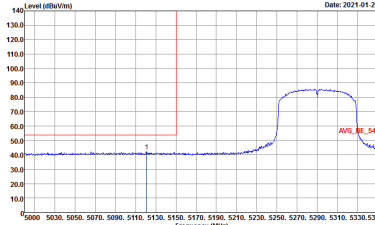
**Band 2 - 5250~5350MHz**  
**WIFI 802.11ac VHT80 (Band Edge @ 3m)**

WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - L	
1	Horizontal	Fundamental
Peak	<p>Site : 03CH07-HY            Condition : PEAK_BE_74 3m HF_ANT_00075962 HORIZONTAL            : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	<p>Site : 03CH07-HY            Condition : PEAK(UWB) 3m HF_ANT_00075962 HORIZONTAL            : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
Avg.	<p>Site : 03CH07-HY            Condition : AVG_BE_54 3m HF_ANT_00075962 HORIZONTAL            : RBW:1000.000kHz VBW:30.000kHz SWT:Auto</p>	Left blank

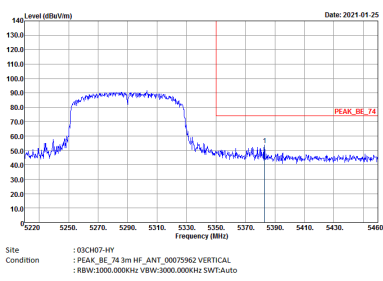
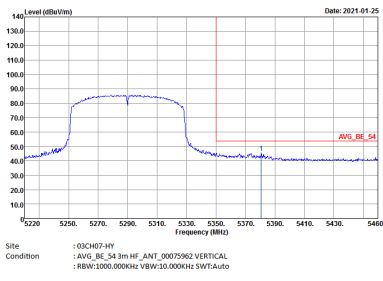


WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - R	
1	Horizontal	Fundamental
Peak	 <p>Site : 03CH07-HY Condition : PEAK_BE_74 3m HF_ANT_00070962 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWF:Auto</p>	Left blank
Avg.	 <p>Site : 03CH07-HY Condition : AVG_BE_54 3m HF_ANT_00070962 HORIZONTAL : RBW:1000.000KHz VBW:30.000KHz SWF:Auto</p>	Left blank



WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - L	
1	Vertical	Fundamental
Peak	 <p>Date: 2021-01-25</p> <p>Site Condition : 03CH07-HY : PEAK_BE_74 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWF:Auto</p>	 <p>Date: 2021-01-25</p> <p>Site Condition : 03CH07-HY : PEAK(LIN) 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWF:Auto</p>
Avg.	 <p>Date: 2021-01-25</p> <p>Site Condition : 03CH07-HY : AVG_BE_54 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:30.000kHz SWF:Auto</p>	Left blank



WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank



**Band 2 - 5250~5350MHz**  
**WIFI 802.11ac VHT80 (Harmonic @ 3m)**

<b>WIFI</b>	<b>Band 2 5250~5350MHz Harmonic @ 3m</b>	
<b>ANT</b>	<b>802.11ac VHT80 CH58 5290MHz</b>	
<b>1</b>	<b>Horizontal</b>	<b>Vertical</b>
<b>Peak Avg.</b>	<p>Site : 03CH07-HY          Condition : PEAK(UNI) 3m HF_ANT_00075962 HORIZONTAL</p>	<p>Site : 03CH07-HY          Condition : PEAK(UNI) 3m HF_ANT_00075962 VERTICAL</p>

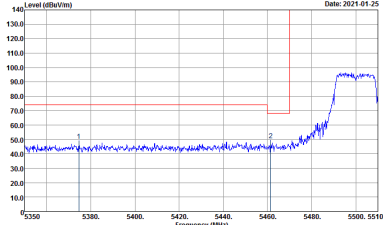
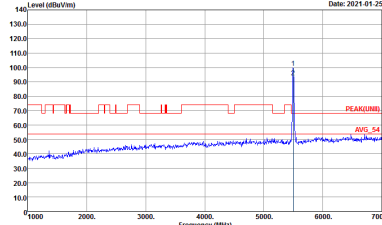
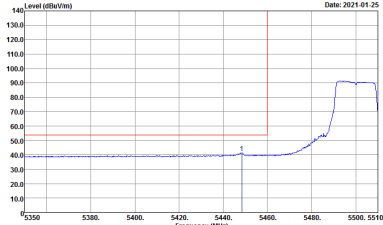


**Band 3 - 5470~5725MHz**  
**WIFI 802.11n HT20 (Band Edge @ 3m)**

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH100 5500MHz	
1	Horizontal	Fundamental
<b>Peak</b>	<p>Site : 03CH07-HY            Condition : PEAK_BE(LN10)_B3 3m HF_ANT_00075962 HORIZONTAL            : RBW:1000.000kHz VBW:3000.000kHz SWFAuto</p>	<p>Site : 03CH07-HY            Condition : PEAK(LN10) 3m HF_ANT_00075962 HORIZONTAL            : RBW:1000.000kHz VBW:3000.000kHz SWFAuto</p>
<b>Avg.</b>	<p>Site : 03CH07-HY            Condition : AVG_BE(LN10)_B3 3m HF_ANT_00075962 HORIZONTAL            : RBW:1000.000kHz VBW:1.000kHz SWFAuto</p>	<b>Left blank</b>





WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH100 5500MHz	
1	Vertical	Fundamental
Peak	 <p>Site Condition : 03CH07-HY : PEAK_BE(LNII)_B3 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWF:Auto</p>	 <p>Site Condition : 03CH07-HY : PEAK(LNII)_3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWF:Auto</p>
Avg.	 <p>Site Condition : 03CH07-HY : AVG_BE(LNII)_B3 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:1.000kHz SWF:Auto</p>	Left blank



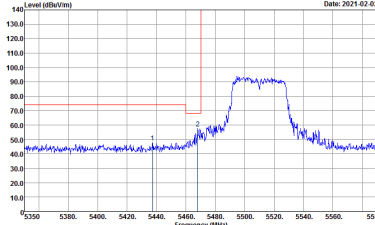
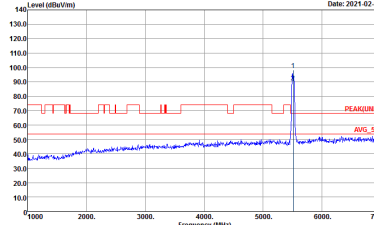
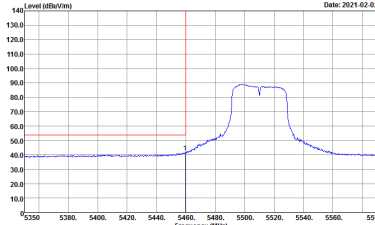
**Band 3 5470~5725MHz  
WIFI 802.11n HT40 (Band Edge @ 3m)**

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - L	
1	Horizontal	Fundamental
<b>Peak</b>	<p>Site : 03CH07-HY Condition : PEAK_BE(LIN10)_B3 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	<p>Site : 03CH07-HY Condition : PEAK(LIN10) 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
<b>Avg.</b>	<p>Site : 03CH07-HY Condition : AVG_BE(LIN10)_B3 3m HF_ANT_00075962 HORIZONTAL : RBW:1000.000kHz VBW:3.000kHz SWT:Auto</p>	<b>Left blank</b>



WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - R	
1	Horizontal	Fundamental
Peak	<p>Site : 03CH07-HY Condition : PEAK_BE(LIN)_B3 3m HF_ANT_00075963 HORIZONTAL : RBW:3000.000kHz VBW:3000.000kHz SWT:auto</p>	Left blank



WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - L	
1	Vertical	Fundamental
Peak	 <p>Site : 03CH07-HY Condition : PEAK_BE(LN101)_B3 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	 <p>Site : 03CH07-HY Condition : PEAK(LN101)_3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
Avg.	 <p>Site : 03CH07-HY Condition : AVG_BE(LN101)_B3 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3.000kHz SWT:Auto</p>	Left blank



WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - R	
1	Vertical	Fundamental
Peak	<p>Site : 03CH07-HY Condition : PEAK_BE(100)_B3 3m HF_ANT_00075963 VERTICAL : RBW:3000.000MHz VBW:3000.000MHz SWT:Auto</p>	Left blank



**Band 3 5470~5725MHz**  
**WIFI 802.11ac VHT80 (Band Edge @ 3m)**

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - L	
1	Horizontal	Fundamental
<b>Peak</b>	<p>Site : 03CH07-HY            Condition : PEAK_BE(LIN10)_B3 3m HF_ANT_00075962 HORIZONTAL            : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	<p>Site : 03CH07-HY            Condition : PEAK(LIN10) 3m HF_ANT_00075962 HORIZONTAL            : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
<b>Avg.</b>	<p>Site : 03CH07-HY            Condition : AVG_BE(LIN10)_B3 3m HF_ANT_00075962 HORIZONTAL            : RBW:1000.000kHz VBW:10.000kHz SWT:Auto</p>	<b>Left blank</b>



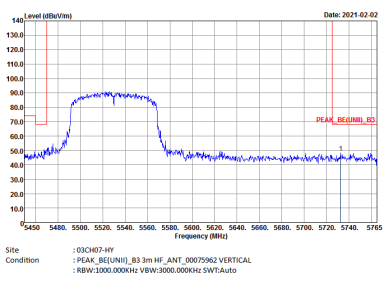
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - R	
1	Horizontal	Fundamental
Peak	<p>Site : 03CH07-HY Condition : PEAK_BE(LIN)_B3 3m HF_ANT_00075963 HORIZONTAL : RBW:3000.0000Hz VBW:3000.0000Hz SWT:auto</p>	Left blank



WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - L	
1	Vertical	Fundamental
Peak	<p>Date: 2021-02-02</p> <p>Site Condition : 03CH07-HY : PEAK_BE(LN10)_B3 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>	<p>Date: 2021-02-02</p> <p>Site Condition : 03CH07-HY : PEAK(LN10) 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto</p>
Avg.	<p>Date: 2021-02-02</p> <p>Site Condition : 03CH07-HY : AVG_BE(LN10)_B3 3m HF_ANT_00075962 VERTICAL : RBW:1000.000kHz VBW:10.000kHz SWT:Auto</p>	Left blank





WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - R	
1	Vertical	Fundamental
Peak	 <p>Site : 03CH07-HY Condition : PEAK_BE(LIN)_B3 3m HF_ANT_00075963 VERTICAL RBW:3000.000kHz VBW:3000.000kHz SWT:auto</p>	Left blank



**Band 3 - 5470~5725MHz**  
**WIFI 802.11n HT20 (Harmonic @ 3m)**

WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT20 CH100 5500MHz	
1	Horizontal	Vertical
<b>Peak Avg.</b>	<p>Site : 03CH07-HY            Condition : 1-PEAK(UWB) 3m HF_ANT_00075962 HORIZONTAL</p>	<p>Site : 03CH07-HY            Condition : 1-PEAK(UWB) 3m HF_ANT_00075962 VERTICAL</p>



Band 3 5470~5725MHz  
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT40 CH102 5510MHz	
1	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH07-HY Condition : 1-PEAK(UWB) 3m HF_ANT_00075962 HORIZONTAL</p>	<p>Site : 03CH07-HY Condition : 1-PEAK(UWB) 3m HF_ANT_00075962 VERTICAL</p>



**Band 3 5470~5725MHz  
WIFI 802.11ac VHT80 (Harmonic @ 3m)**

WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz	
1	Horizontal	Vertical
<p><b>Peak</b> <b>Avg.</b></p>	<p>Site : 03CH07-HY Condition : 1-PEAK(UWB) 3m HF_ANT_00075962 HORIZONTAL</p>	<p>Site : 03CH07-HY Condition : 1-PEAK(UWB) 3m HF_ANT_00075962 VERTICAL</p>

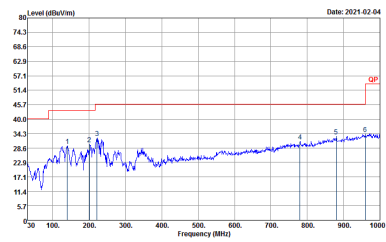
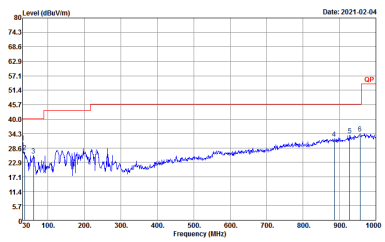


Emission above 18GHz  
5GHz WIFI 802.11ac VHT80 (SHF)

WIFI	5GHz WIFI	
ANT	802.11ac VHT80 SHF	
1	Horizontal	Vertical
QP / Peak	<p>Site : 03CH07-HY Condition : PEAK(UNII) 1m SHF-EHF_9170251 HORIZONTAL</p>	<p>Site : 03CH07-HY Condition : PEAK(UNII) 1m SHF-EHF_9170251 VERTICAL</p>



Emission below 1GHz  
5GHz WIFI 802.11ac VHT80 (LF)

WIFI	5GHz WIFI	
ANT	802.11ac VHT80 LF	
1	Horizontal	Vertical
QP / Peak	 <p>Site : 03CH07-HY Condition : QP 3m LF-ANT-35419(6) HORIZONTAL</p>	 <p>Site : 03CH07-HY Condition : QP 3m LF-ANT-35419(6) VERTICAL</p>



## Appendix E. Duty Cycle Plots

Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting	Duty Factor(dB)
802.11a	91.03	2030	0.49	1kHz	0.41
5GHz 802.11n HT20	90.43	1890	0.53	1kHz	0.44
5GHz 802.11n HT40	90.78	935	1.07	3kHz	0.42
5GHz 802.11ac VHT80	96.12	4.03	10kHz	0.17	

