



# FCC RADIO TEST REPORT

**FCC ID** : A4RGWX3T  
**Equipment** : Wireless Product  
**Model Name** : GWX3T  
**Applicant** : Google LLC  
1600 Amphitheatre Parkway,  
Mountain View, California, 94043 USA  
**Standard** : FCC Part 15 Subpart E §15.407

The product was received on Jul. 16, 2020 and testing was started from Jul. 17, 2020 and completed on Oct. 13, 2020. 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 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 Product Specification of Equipment Under Test.....	5
1.3 Modification of EUT .....	6
1.4 Testing Location .....	6
1.5 Applicable Standards.....	6
<b>2 Test Configuration of Equipment Under Test .....</b>	<b>7</b>
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 .....	10
2.5 EUT Operation Test Setup .....	10
2.6 Measurement Results Explanation Example.....	10
<b>3 Test Result .....</b>	<b>11</b>
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.....	17
3.5 AC Conducted Emission Measurement.....	23
3.6 Automatically Discontinue Transmission .....	25
3.7 Antenna Requirements.....	27
<b>4 List of Measuring Equipment.....</b>	<b>28</b>
<b>5 Uncertainty of Evaluation.....</b>	<b>30</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>	



### History of this test report

Report No.	Version	Description	Issued Date
FR031625-01D	01	Initial issue of report	Sep. 14, 2020
FR031625-01D	02	Revising test data	Oct. 14, 2020



## Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.403 (i)	6dB & 26dB Bandwidth	Pass	-
3.1	2.1049	99% Occupied Bandwidth	Reporting only	-
3.2	15.407 (a)	Maximum Conducted Output Power	Pass	-
3.3	15.407 (a)	Power Spectral Density	Pass	-
3.4	15.407(b)	Unwanted Emissions	Pass	Under limit 3.13 dB at 17978.000 MHz
3.5	15.207	AC Conducted Emission	Pass	Under limit 12.54 dB at 1.406 MHz
3.6	15.407 (c)	Automatically Discontinue Transmission	Pass	-
3.7	15.203 & 15.407 (a)	Antenna Requirement	Pass	-

**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: Amy Chen**



# 1 General Description

## 1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Wireless Product
Model Name	GWX3T
FCC ID	A4RGWX3T
EUT supports Radios application	WLAN 11a/b/g/n HT20 Bluetooth - LE

**Remark:** The above EUT's information was declared by manufacturer.

EUT Information List	
S/N	Performed Test Item
34A1905A1G6128000114	RF Conducted Measurement
	Radiated Spurious Emission
	Conducted Emission

## 1.2 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Channel Frequency Range	5745 MHz ~ 5825 MHz
Maximum Output Power	<Ant. 1> 802.11a : 16.30 dBm / 0.0427 W 802.11n HT20 : 16.20 dBm / 0.0417 W <Ant. 2> 802.11a : 16.50 dBm / 0.0447 W 802.11n HT20 : 16.10 dBm / 0.0407 W
99% Occupied Bandwidth	<Ant. 1> 802.11a : 16.80 MHz 802.11n HT20 : 17.90 MHz <Ant. 2> 802.11a : 16.75 MHz 802.11n HT20 : 17.85 MHz
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)
Antenna Type / Gain	<Ant. 1> : PCB IFA Antenna with gain 3.11 dBi <Ant. 2> : PCB IFA Antenna with gain 2.64 dBi



### 1.3 Modification of EUT

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

### 1.4 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	DFS02-HY

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

<b>Test Site</b>	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory		
<b>Test Site Location</b>	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855		
<b>Test Site No.</b>	<b>Sporton Site No.</b>		
	03CH15-HY		

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

FCC designation No.: TW1190 and TW0007

### 1.5 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 and measured on both antenna. The worst cases (Ant. 1, 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)
5725-5850 MHz Band 4 (U-NII-3)	149	5745	157	5785
	-	-	-	-
	153	5765	161	5805
	-	-	165	5825



## 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

Test Cases	
<b>AC Conducted Emission</b>	Mode 1: 802.11a Tx (5260MHz) for Ant. 1 + USB Cable (Charging from Notebook) Mode 2: 802.11a Tx (5260MHz) for Ant. 2 + USB Cable (Charging from Notebook)
<b>Remark:</b> The worst case of conducted emission is mode 1; only the test data of it was reported.	

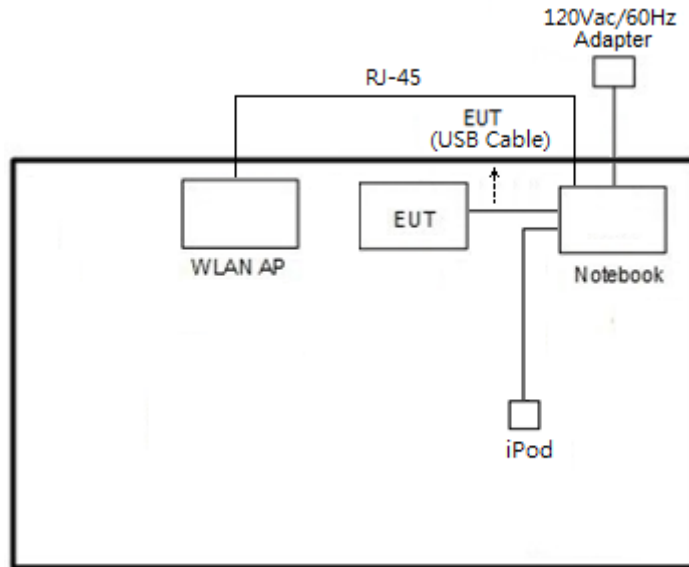
Ch. #		Band IV : 5725-5850 MHz	
		802.11a	802.11n HT20
L	Low	149	149
M	Middle	157	157
H	High	165	165

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

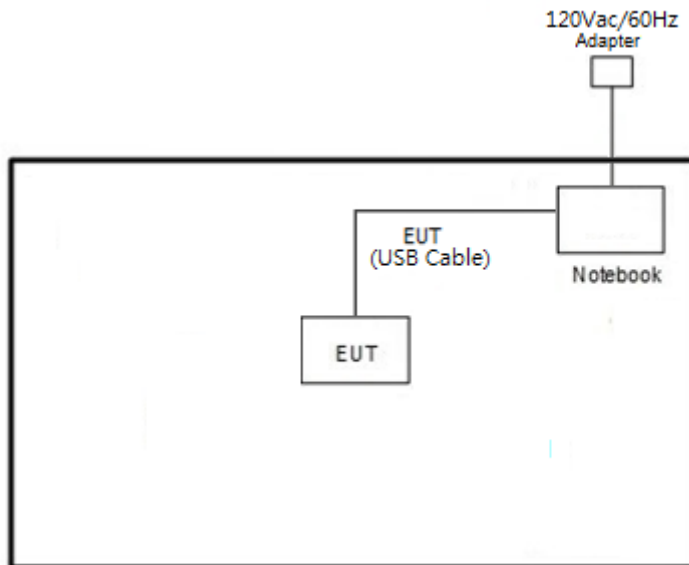


## 2.3 Connection Diagram of Test System

<AC Conducted Emissions Mode>



<WLAN Tx Mode>





## 2.4 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8 m
2.	iPod	Apple	A1285	FCC DoC	Shielded, 1.0 m	N/A
3.	Notebook	DELL	Latitude 3400	FCC DoC	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 “CMD” 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.

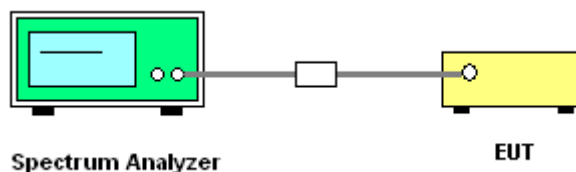
##### 3.1.2 Measuring Instruments

See list of measuring equipment of this test report.

##### 3.1.3 Test Procedures

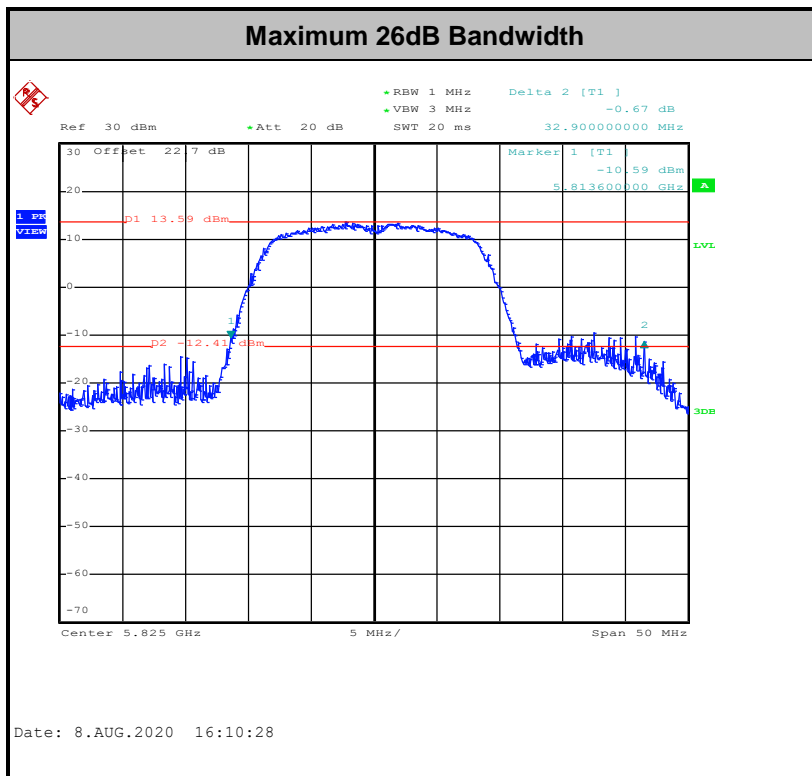
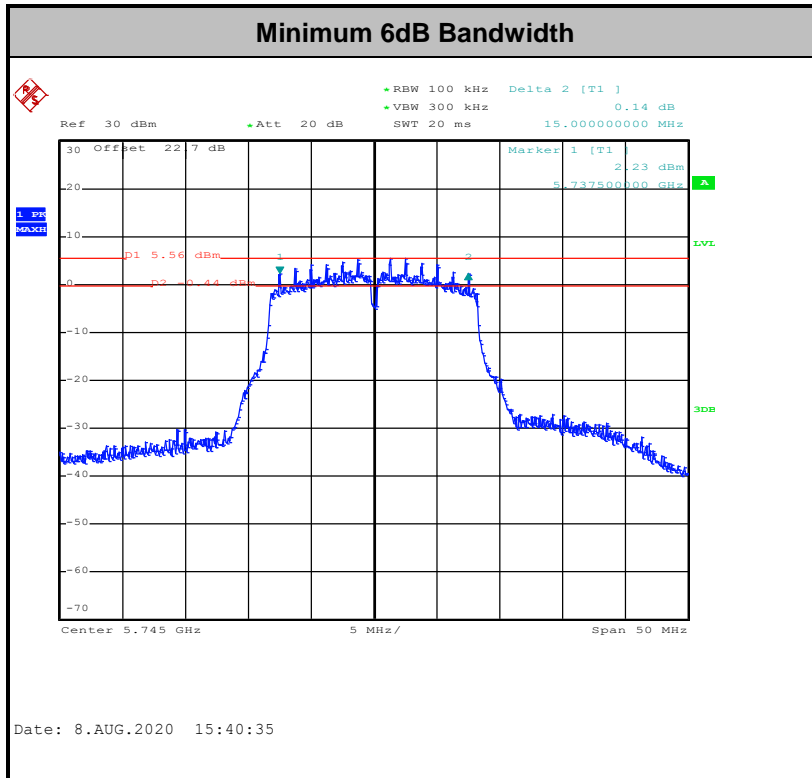
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section C) Emission bandwidth for the band 5.725-5.85GHz
2. Set RBW = 100kHz.
3. Set the VBW  $\geq 3 \times$  RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is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

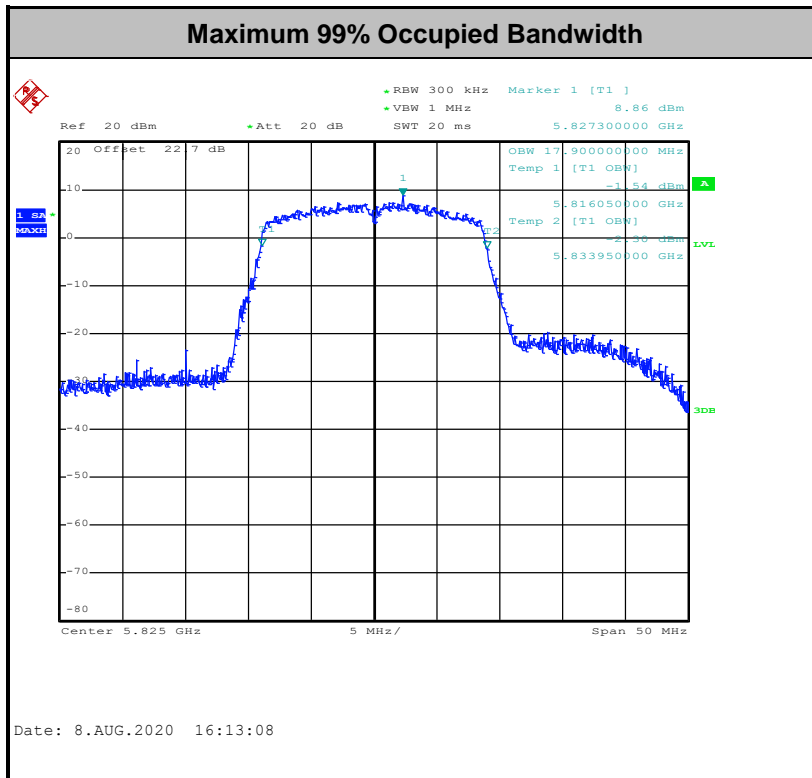
##### 3.1.4 Test Setup



##### 3.1.5 Test Result of 6dB and 26dB and 99% Occupied 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

See list of measuring equipment of this test report.

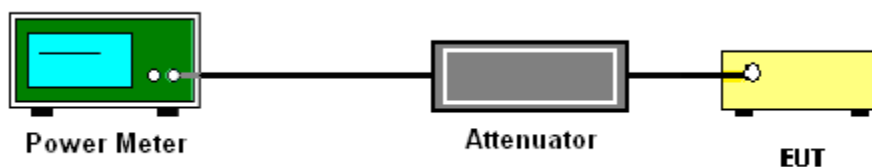
### 3.2.3 Test Procedures

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

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.

### 3.2.4 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

See list of measuring equipment 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-3 #

(power averaging (rms) detection with max hold):

- 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  $\leq$  (number of points in sweep)  $\times$  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.
  - Detector = power averaging (rms).
  - Trace mode = max hold.
  - Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.
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.







### 3.4 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)
- 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.

### 3.4.2 Measuring Instruments

See list of measuring equipment 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 ≥ 3 MHz
- Detector = Peak
- Sweep time = auto
- Trace mode = max hold

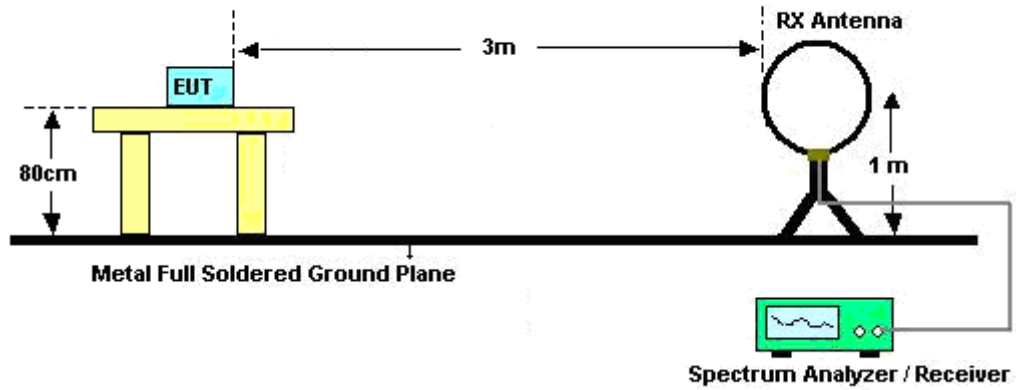


(3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

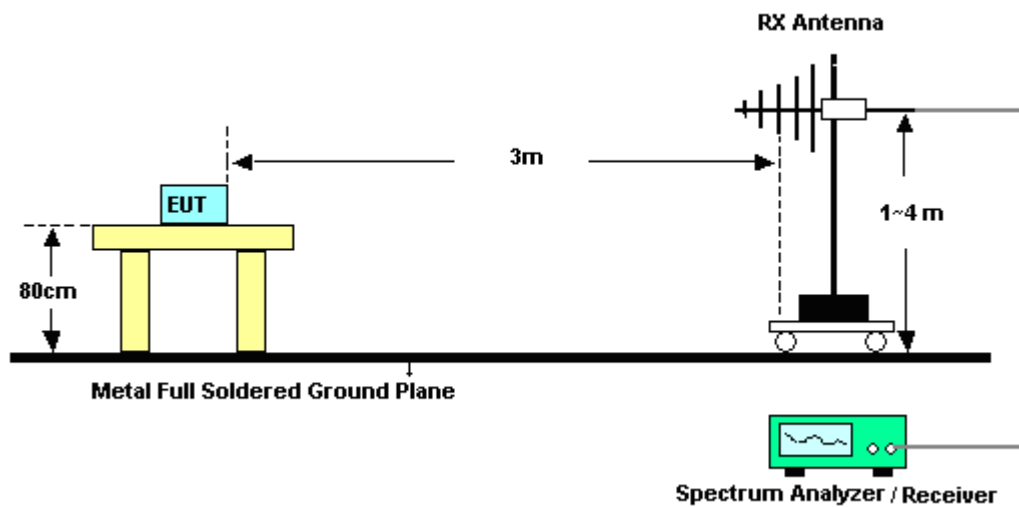
- RBW = 1 MHz
  - VBW  $\geq$  3 MHz
  - Detector = RMS
  - Averaging type = linear voltage averaging.
  - Sweep time = Auto.
  - Trace average at least 100 traces in power averaging mode.
  - Add  $20 \log(1/d)$ , where d is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, with 50% duty cycle, at least 200 traces shall be averaged.
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

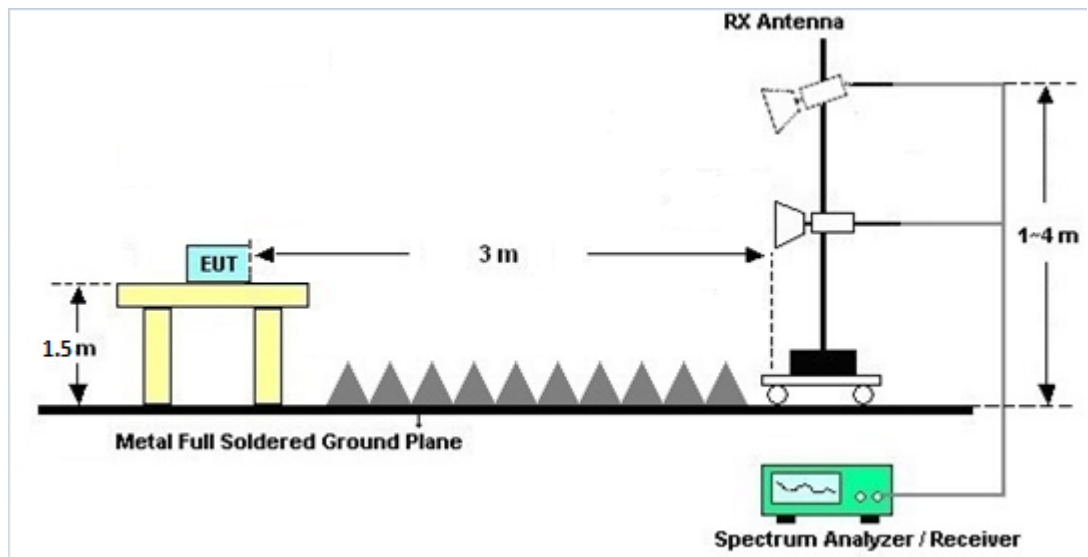
For radiated emissions below 30MHz



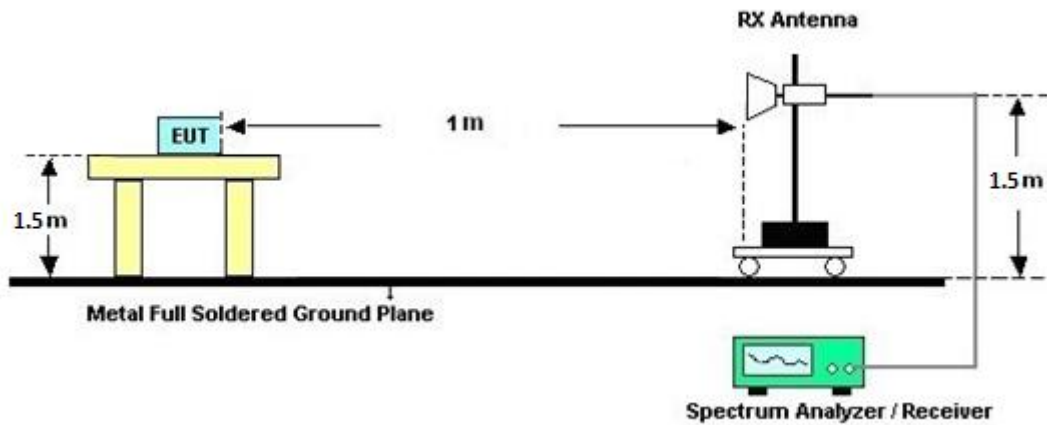
For radiated emissions from 30MHz to 1GHz



For radiated emissions from 1GHz to 18GHz



For radiated emissions above 18GHz





### **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 alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, 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 (dB $\mu$ V)	
	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.

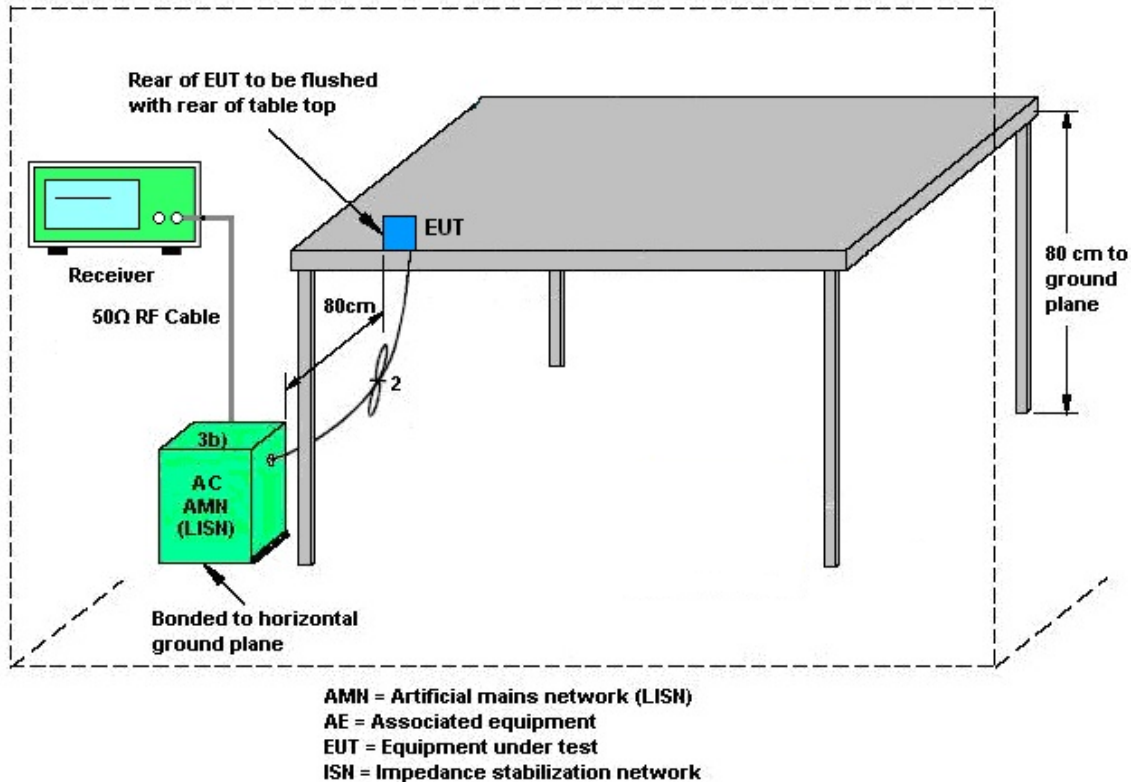
#### 3.5.2 Measuring Instruments

See list of measuring equipment 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**

See list of measuring equipment of this test report.

### **3.6.3 Test Result of Automatically Discontinue Transmission**

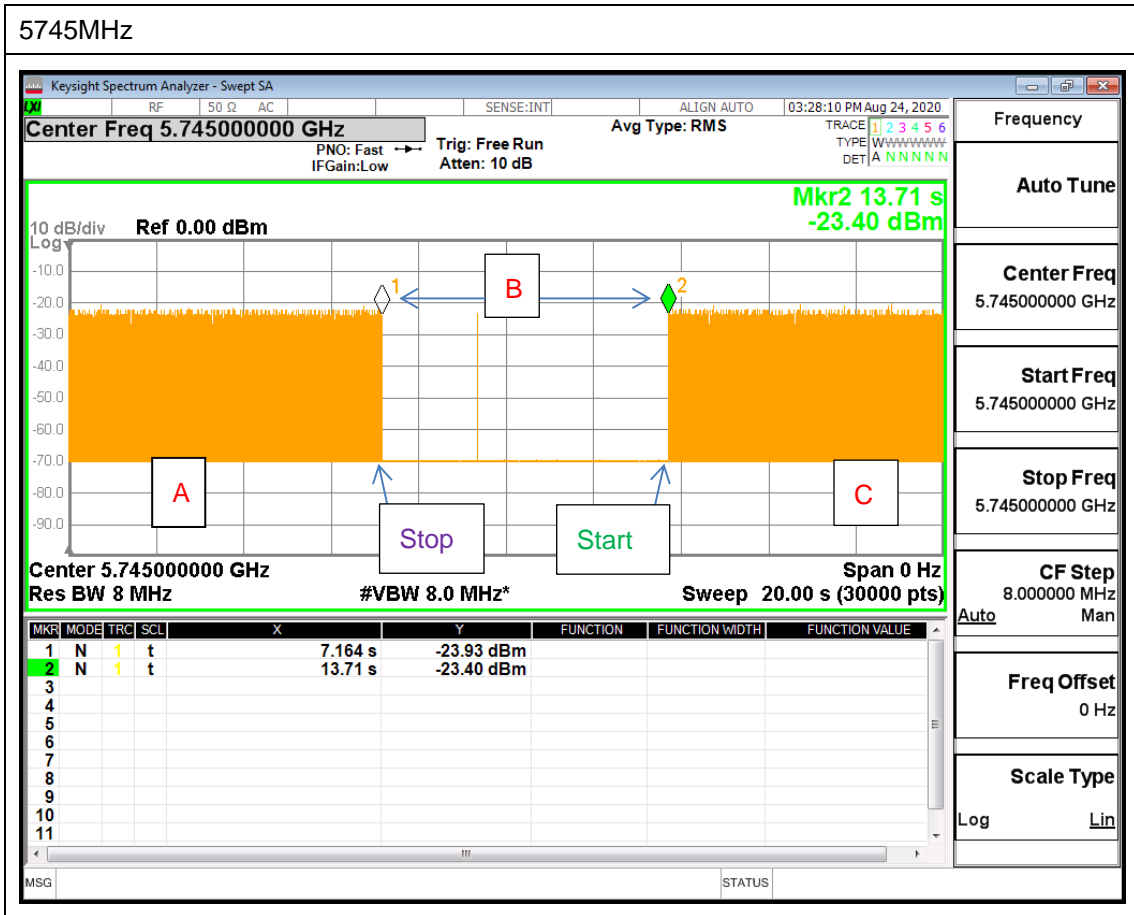
EUT is verified this characteristic during the function check of normal sample associated with an access point:

- A. Information start: make EUT supply information to the access point.
- B. Information stop: stop supplying information to the access point.

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

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

The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.



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



## **3.7 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**

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	100488	9 kHz~30 MHz	Jan. 09, 2020	Jul. 21, 2020~ Oct. 13, 2020	Jan. 08, 2021	Radiation (03CH15-HY)
Bilog Antenna	TESEQ	CBL6111D&00 800N1D01N-0 6	41912&05	30MHz to 1GHz	Feb. 09, 2020	Jul. 21, 2020~ Oct. 13, 2020	Feb. 08, 2021	Radiation (03CH15-HY)
Amplifier	SONOMA	310N	363440	9kHz~1GHz	Dec. 27, 2019	Jul. 21, 2020~ Oct. 13, 2020	Dec. 26, 2020	Radiation (03CH15-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-1620	1-18GHz	Oct. 28, 2019	Jul. 21, 2020~ Oct. 13, 2020	Oct. 27, 2020	Radiation (03CH15-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Dec. 10, 2019	Jul. 21, 2020~ Oct. 13, 2020	Dec. 09, 2020	Radiation (03CH15-HY)
Preamplifier	Jet-Power	JPA0118-55-3 03	171000180005 5006	1GHz~18GHz	May 07, 2020	Jul. 21, 2020~ Oct. 13, 2020	May 06, 2021	Radiation (03CH15-HY)
Preamplifier	Keysight	83017A	MY53270195	1GHz~26.5GHz	Aug. 23, 2019	Jul. 21, 2020~ Aug. 04, 2020	Aug. 22, 2020	Radiation (03CH15-HY)
Preamplifier	Keysight	83017A	MY53270195	1GHz~26.5GHz	Aug. 21, 2020	Oct. 12, 2020~ Oct. 13, 2020	Aug. 20, 2021	Radiation (03CH15-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz ~ 40GHz	Dec. 13, 2019	Jul. 21, 2020~ Oct. 13, 2020	Dec. 12, 2020	Radiation (03CH15-HY)
EMI Test Receiver	Keysight	N9038A(MXE)	MY54130085	20MHz~8.4GHz	Nov. 01, 2019	Jul. 21, 2020~ Oct. 13, 2020	Oct. 31, 2020	Radiation (03CH15-HY)
Spectrum Analyzer	Agilent	E4446A	MY50180136	3Hz~44GHz	May 04, 2020	Jul. 21, 2020~ Oct. 13, 2020	May 03, 2021	Radiation (03CH15-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Jul. 21, 2020~ Oct. 13, 2020	N/A	Radiation (03CH15-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Jul. 21, 2020~ Oct. 13, 2020	N/A	Radiation (03CH15-HY)
Software	Audix	E3 6.2009-8-24(k 5)	RK-000451	N/A	N/A	Jul. 21, 2020~ Oct. 13, 2020	N/A	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4PE	9kHz~30MHz	Mar. 12, 2020	Jul. 21, 2020~ Oct. 13, 2020	Mar. 11, 2021	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY36980/4	30M-18G	Apr. 14, 2020	Jul. 21, 2020~ Oct. 13, 2020	Apr. 13, 2021	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9838/4PE	30M-18G	Apr. 14, 2020	Jul. 21, 2020~ Oct. 13, 2020	Apr. 13, 2021	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY37710/4	30M-18G	Apr. 17, 2020	Jul. 21, 2020~ Oct. 13, 2020	Apr. 16, 2021	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30MHz-40GHz	Feb. 25, 2020	Jul. 21, 2020~ Oct. 13, 2020	Feb. 24, 2021	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	800740/2	30MHz-40GHz	Feb. 25, 2020	Jul. 21, 2020~ Oct. 13, 2020	Feb. 24, 2021	Radiation (03CH15-HY)
Filter	Wainwright	WLK4-1000-15 30-8000-40SS	SN4	1.53G Low Pass	Jul. 03, 2020	Jul. 21, 2020~ Oct. 13, 2020	Jul. 02, 2021	Radiation (03CH15-HY)
Filter	Wainwright	WHKX8-5872. 5-6750-18000- 40ST	SN6	6.75GHz High Pass Filter	Jul. 03, 2020	Jul. 21, 2020~ Oct. 13, 2020	Jul. 02, 2021	Radiation (03CH15-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	Aug. 13, 2020	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9kHz~3.6GHz	Nov. 15, 2019	Aug. 13, 2020	Nov. 14, 2020	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	Nov. 07, 2019	Aug. 13, 2020	Nov. 06, 2020	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 20, 2019	Aug. 13, 2020	Nov. 19, 2020	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Nov. 15, 2019	Aug. 13, 2020	Nov. 14, 2020	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Aug. 13, 2020	N/A	Conduction (CO05-HY)
LF Cable	HUBER + SUHNER	RG-214/U	LF01	N/A	Jan. 02, 2020	Aug. 13, 2020	Jan. 01, 2021	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Jan. 02, 2020	Aug. 13, 2020	Jan. 01, 2021	Conduction (CO05-HY)
Power Sensor	DARE	RPR3006W	16I00054SNO10	10MHz~6GHz	Dec. 23, 2019	Jul. 17, 2020~ Aug. 18, 2020	Dec. 22, 2020	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP30	100895	9kHz-30GHz	Nov. 26, 2019	Jul. 17, 2020~ Aug. 18, 2020	Nov. 25, 2020	Conducted (TH05-HY)
Switch Box & RF Cable	Burgeon	ETF-058	EC1300484	N/A	Aug. 22, 2019	Jul. 17, 2020~ Aug. 18, 2020	Aug. 21, 2020	Conducted (TH05-HY)
Hygrometer	Ji Zhan	HTC-1	2	N/A	Mar. 02, 2020	Jul. 17, 2020~ Aug. 18, 2020	Mar. 01, 2021	Conducted (TH05-HY)
Spectrum Analyzer	Keysight	N9010A	MY56070412	10Hz~7GHz	Aug. 27, 2019	Aug. 24, 2020	Aug. 26, 2020	DFS (DFS02-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% ( $U = 2Uc(y)$ )	5.0
---	-----

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

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	5.4
---	-----

### 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:	21.2~23.7	°C
Test Date:	2020/7/17-2020/8/18	Relative Humidity:	47.2~57.8	%

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

Band IV single antenna												
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		
11a	6Mbps	1	149	5745	16.75	16.65	22.40	22.30	15.00	15.10	0.5	Pass
11a	6Mbps	1	157	5785	16.75	16.65	22.20	22.30	15.10	15.10	0.5	Pass
11a	6Mbps	1	165	5825	16.80	16.75	22.30	22.30	15.10	15.10	0.5	Pass
HT20	MCS0	1	149	5745	17.85	17.85	23.00	22.70	15.00	15.00	0.5	Pass
HT20	MCS0	1	157	5785	17.80	17.75	22.80	31.00	15.10	15.10	0.5	Pass
HT20	MCS0	1	165	5825	17.90	17.85	32.90	32.60	15.05	15.10	0.5	Pass



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

Band IV 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	149	5745	16.30	16.50		30.00	30.00	3.11	2.64	Pass
11a	6Mbps	1	157	5785	16.20	16.40		30.00	30.00	3.11	2.64	Pass
11a	6Mbps	1	165	5825	16.10	16.30		30.00	30.00	3.11	2.64	Pass
HT20	MCS0	1	149	5745	16.20	16.10		30.00	30.00	3.11	2.64	Pass
HT20	MCS0	1	157	5785	16.10	16.00		30.00	30.00	3.11	2.64	Pass
HT20	MCS0	1	165	5825	15.90	15.90		30.00	30.00	3.11	2.64	Pass

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

Band IV single antenna														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	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	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	149	5745	2.22	2.22	5.88	6.06		30.00	30.00	3.11	2.64	Pass
11a	6Mbps	1	157	5785	2.22	2.22	5.54	5.53		30.00	30.00	3.11	2.64	Pass
11a	6Mbps	1	165	5825	2.22	2.22	5.50	5.09		30.00	30.00	3.11	2.64	Pass
HT20	MCS0	1	149	5745	2.22	2.22	5.52	6.08		30.00	30.00	3.11	2.64	Pass
HT20	MCS0	1	157	5785	2.22	2.22	5.34	5.78		30.00	30.00	3.11	2.64	Pass
HT20	MCS0	1	165	5825	2.22	2.22	6.01	6.06		30.00	30.00	3.11	2.64	Pass



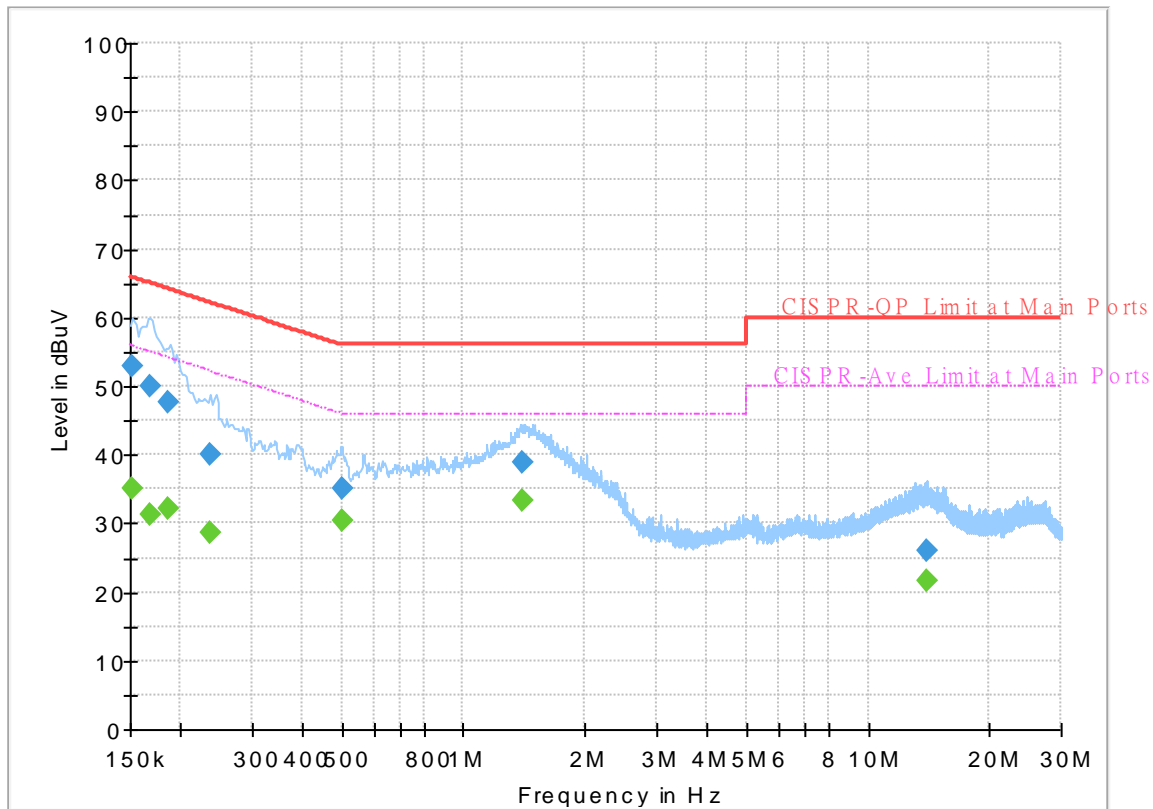
## Appendix B. AC Conducted Emission Test Results

Test Engineer :	Tom Lee	Temperature :	24~26°C
		Relative Humidity :	42~50%

# EUT Information

Report NO : 031625-01  
 Test Mode : Mode 1  
 Test Voltage : Power From System  
 Phase : Line

Full Spectrum



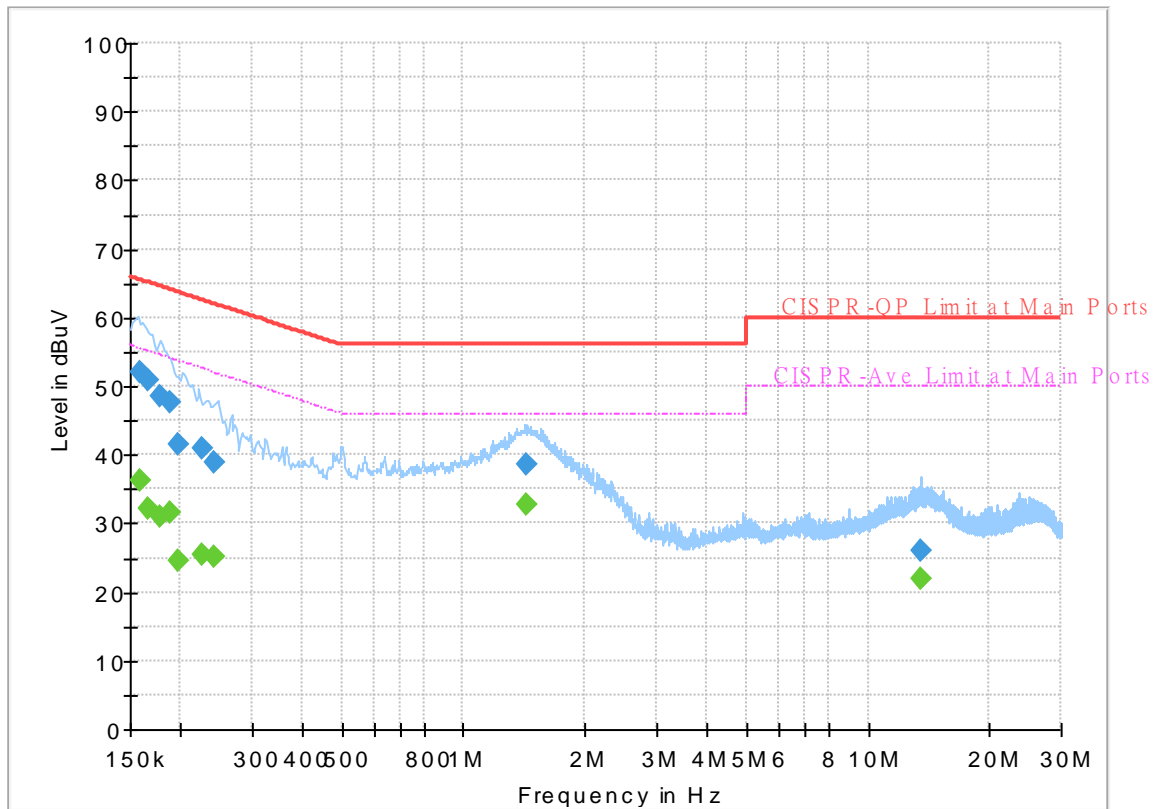
## Final Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.151553	---	35.06	55.91	20.85	L1	OFF	19.5
0.151553	52.78	---	65.91	13.13	L1	OFF	19.5
0.167190	---	31.31	55.10	23.79	L1	OFF	19.5
0.167190	49.90	---	65.10	15.20	L1	OFF	19.5
0.185550	---	32.02	54.23	22.21	L1	OFF	19.5
0.185550	47.70	---	64.23	16.53	L1	OFF	19.5
0.237750	---	28.71	52.17	23.46	L1	OFF	19.5
0.237750	40.01	---	62.17	22.16	L1	OFF	19.5
0.501360	---	30.49	46.00	15.51	L1	OFF	19.5
0.501360	35.17	---	56.00	20.83	L1	OFF	19.5
1.405500	---	33.46	46.00	12.54	L1	OFF	19.6
1.405500	38.79	---	56.00	17.21	L1	OFF	19.6
13.974000	---	21.78	50.00	28.22	L1	OFF	19.8
13.974000	26.07	---	60.00	33.93	L1	OFF	19.8

# EUT Information

Report NO : 031625-01  
 Test Mode : Mode 1  
 Test Voltage : Power From System  
 Phase : Neutral

Full Spectrum



## Final\_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.159000	---	36.40	55.52	19.12	N	OFF	19.5
0.159000	52.01	---	65.52	13.51	N	OFF	19.5
0.166830	---	32.04	55.12	23.08	N	OFF	19.5
0.166830	50.84	---	65.12	14.28	N	OFF	19.5
0.177000	---	30.99	54.63	23.64	N	OFF	19.5
0.177000	48.65	---	64.63	15.98	N	OFF	19.5
0.188250	---	31.61	54.11	22.50	N	OFF	19.5
0.188250	47.68	---	64.11	16.43	N	OFF	19.5
0.197250	---	24.49	53.73	29.24	N	OFF	19.5
0.197250	41.60	---	63.73	22.13	N	OFF	19.5
0.226500	---	25.35	52.58	27.23	N	OFF	19.5
0.226500	41.07	---	62.58	21.51	N	OFF	19.5
0.242250	---	25.09	52.02	26.93	N	OFF	19.5
0.242250	38.97	---	62.02	23.05	N	OFF	19.5
1.439610	---	32.80	46.00	13.20	N	OFF	19.6
1.439610	38.60	---	56.00	17.40	N	OFF	19.6
13.539750	---	21.80	50.00	28.20	N	OFF	19.9
13.539750	25.89	---	60.00	34.11	N	OFF	19.9



### Appendix C. Radiated Spurious Emission

Test Engineer :	Leo Lee, Mancy Chou, and Bigshow Wang	Temperature :	22.1~23.1°C
		Relative Humidity :	55~60%

**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		5624	51.15	-17.05	68.2	38.92	31.85	10.89	30.51	262	248	P	H	
		5699	52.54	-51.92	104.46	40.22	32	10.87	30.55	262	248	P	H	
		5719.8	66.08	-44.66	110.74	53.78	32	10.87	30.57	262	248	P	H	
		5724.8	66.49	-55.25	121.74	54.19	32	10.87	30.57	262	248	P	H	
	*	5745	106.89	-	-	94.61	32	10.86	30.58	262	248	P	H	
	*	5745	99.01	-	-	86.73	32	10.86	30.58	262	248	A	H	
														H
														H
			5600	51.45	-16.75	68.2	39.14	31.9	10.9	30.49	100	94	P	V
			5698.4	53.45	-50.57	104.02	41.14	31.99	10.87	30.55	100	94	P	V
			5719	66.97	-43.55	110.52	54.67	32	10.87	30.57	100	94	P	V
			5724.6	67.39	-53.9	121.29	55.09	32	10.87	30.57	100	94	P	V
	*	5745	109.56	-	-	97.28	32	10.86	30.58	100	94	P	V	
	*	5745	101.69	-	-	89.41	32	10.86	30.58	100	94	A	V	
														V
														V



WIFI Ant. 1	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )
		5615.8	52	-16.2	68.2	39.74	31.87	10.89	30.5	243	257	P	H
		5689.2	50.92	-46.32	97.24	38.63	31.96	10.88	30.55	243	257	P	H
		5719.8	50.97	-59.77	110.74	38.67	32	10.87	30.57	243	257	P	H
		5721.2	50.83	-62.71	113.54	38.53	32	10.87	30.57	243	257	P	H
	*	5785	105.6	-	-	93.22	32.14	10.85	30.61	243	257	P	H
	*	5785	97.87	-	-	85.49	32.14	10.85	30.61	243	257	A	H
		5852.6	50.81	-65.46	116.27	38.27	32.21	10.98	30.65	243	257	P	H
		5856.8	51.87	-58.43	110.3	39.3	32.23	10.99	30.65	243	257	P	H
		5877	52.24	-51.47	103.71	39.55	32.31	11.04	30.66	243	257	P	H
		5934.6	51.69	-16.51	68.2	38.73	32.47	11.19	30.7	243	257	P	H
													H
													H
<b>802.11a</b>													
<b>CH 157</b>													
<b>5785MHz</b>		5601.8	50.86	-17.34	68.2	38.55	31.9	10.9	30.49	100	93	P	V
		5682.4	51.73	-40.48	92.21	39.46	31.93	10.88	30.54	100	93	P	V
		5713.4	51.43	-57.52	108.95	39.12	32	10.87	30.56	100	93	P	V
		5724.6	52.94	-68.35	121.29	40.64	32	10.87	30.57	100	93	P	V
	*	5785	109.31	-	-	96.93	32.14	10.85	30.61	100	93	P	V
	*	5785	101.55	-	-	89.17	32.14	10.85	30.61	100	93	A	V
		5850.2	51.64	-70.1	121.74	39.11	32.2	10.98	30.65	100	93	P	V
		5856.4	52	-58.41	110.41	39.43	32.23	10.99	30.65	100	93	P	V
		5910.6	52.05	-26.77	78.82	39.18	32.42	11.13	30.68	100	93	P	V
		5938.8	51.25	-16.95	68.2	38.27	32.48	11.2	30.7	100	93	P	V
													V
													V



WiFi Ant. 1	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	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	105.54	-	-	93.06	32.2	10.91	30.63	253	294	P	H	
	*	5825	97.73	-	-	85.25	32.2	10.91	30.63	253	294	A	H	
		5850.6	59.5	-61.33	120.83	46.97	32.2	10.98	30.65	253	294	P	H	
		5863.2	57.58	-50.92	108.5	44.98	32.25	11.01	30.66	253	294	P	H	
		5878	53.57	-49.4	102.97	40.87	32.31	11.05	30.66	253	294	P	H	
		5947.2	52.06	-16.14	68.2	39.06	32.49	11.22	30.71	253	294	P	H	
														H
														H
	*	5825	109.65	-	-	97.17	32.2	10.91	30.63	100	99	P	V	
	*	5825	101.74	-	-	89.26	32.2	10.91	30.63	100	99	A	V	
		5850.8	62.33	-58.05	120.38	49.8	32.2	10.98	30.65	100	99	P	V	
		5857.4	59.48	-50.65	110.13	46.91	32.23	10.99	30.65	100	99	P	V	
		5875.8	54.67	-49.94	104.61	41.99	32.3	11.04	30.66	100	99	P	V	
		5942.4	51.56	-16.64	68.2	38.57	32.48	11.21	30.7	100	99	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	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	48.65	-25.35	74	54.18	40.48	14.89	60.9	100	0	P	H
		17235	50.56	-17.64	68.2	49.47	40.94	18.97	58.82	100	0	P	H
		18000	61.07	-12.93	74	50.34	48.8	19.83	57.9	100	242	P	H
		18000	50.67	-3.33	54	39.94	48.8	19.83	57.9	100	242	A	H
		11490	48.85	-25.15	74	54.38	40.48	14.89	60.9	100	0	P	V
		17235	50.85	-17.35	68.2	49.76	40.94	18.97	58.82	100	0	P	V
		17989	60.73	-13.27	74	50.24	48.58	19.82	57.91	300	195	P	V
		17989	50.73	-3.27	54	40.24	48.58	19.82	57.91	300	195	A	V
802.11a CH 157 5785MHz		11570	48.42	-25.58	74	54.13	40.29	14.98	60.98	100	0	P	H
		17355	51.82	-16.38	68.2	49.63	41.75	19.11	58.67	100	0	P	H
		17956	59.78	-14.22	74	50.03	47.92	19.78	57.95	100	242	P	H
		17956	49.78	-4.22	54	40.03	47.92	19.78	57.95	100	242	A	H
		11570	48.54	-25.46	74	54.25	40.29	14.98	60.98	100	0	P	V
		17355	51.88	-16.32	68.2	49.69	41.75	19.11	58.67	100	0	P	V
		17956	59.68	-14.32	74	49.93	47.92	19.78	57.95	300	195	P	V
		17956	49.68	-4.32	54	39.93	47.92	19.78	57.95	300	195	A	V
802.11a CH 165 5825MHz		11650	49.03	-24.97	74	55.2	39.85	15.06	61.08	100	0	P	H
		17475	52.52	-15.68	68.2	49.31	42.5	19.24	58.53	100	0	P	H
		17989	60.14	-13.86	74	49.65	48.58	19.82	57.91	100	242	P	H
		17989	50.5	-3.5	54	40.01	48.58	19.82	57.91	100	242	A	H
		11650	48.3	-25.7	74	54.47	39.85	15.06	61.08	100	0	P	V
		17475	52.37	-15.83	68.2	49.16	42.5	19.24	58.53	100	0	P	V
		17945	59.35	-14.65	74	49.85	47.7	19.77	57.97	300	195	P	V
		17945	49.32	-4.68	54	39.82	47.7	19.77	57.97	300	195	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**Band 4 5725~5850MHz**  
**WIFI 802.11n 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 149 5745MHz		5641.8	51.47	-16.73	68.2	39.28	31.82	10.89	30.52	260	247	P	H	
		5699.6	53.18	-51.73	104.91	40.86	32	10.87	30.55	260	247	P	H	
		5717.2	64.56	-45.46	110.02	52.25	32	10.87	30.56	260	247	P	H	
		5724.2	67.17	-53.21	120.38	54.87	32	10.87	30.57	260	247	P	H	
	*	5745	107.4	-	-	95.12	32	10.86	30.58	260	247	P	H	
	*	5745	98.89	-	-	86.61	32	10.86	30.58	260	247	A	H	
														H
														H
			5603.4	51.76	-16.44	68.2	39.46	31.89	10.9	30.49	100	94	P	V
			5698.4	54.63	-49.39	104.02	42.32	31.99	10.87	30.55	100	94	P	V
			5719	67.47	-43.05	110.52	55.17	32	10.87	30.57	100	94	P	V
			5722	69.13	-46.23	115.36	56.83	32	10.87	30.57	100	94	P	V
	*		5745	109.69	-	-	97.41	32	10.86	30.58	100	94	P	V
	*		5745	101.54	-	-	89.26	32	10.86	30.58	100	94	A	V
														V
													V	



WIFI Ant. 1	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)
		5626	51.09	-17.11	68.2	38.86	31.85	10.89	30.51	248	248	P	H
		5657.4	50.41	-23.29	73.7	38.23	31.83	10.88	30.53	248	248	P	H
		5717.2	51.76	-58.26	110.02	39.45	32	10.87	30.56	248	248	P	H
		5724	50.69	-69.23	119.92	38.39	32	10.87	30.57	248	248	P	H
	*	5785	105.48	-	-	93.1	32.14	10.85	30.61	248	248	P	H
	*	5785	97.64	-	-	85.26	32.14	10.85	30.61	248	248	A	H
		5852.6	51.45	-64.82	116.27	38.91	32.21	10.98	30.65	248	248	P	H
		5859.8	51.73	-57.72	109.45	39.14	32.24	11	30.65	248	248	P	H
		5905.2	51.85	-30.96	82.81	39.01	32.41	11.11	30.68	248	248	P	H
		5947.6	51.82	-16.38	68.2	38.81	32.5	11.22	30.71	248	248	P	H
													H
													H
<b>802.11n</b>													
<b>HT20</b>													
<b>CH 157</b>		5625.2	51.21	-16.99	68.2	38.98	31.85	10.89	30.51	100	98	P	V
<b>5785MHz</b>		5690.4	50.86	-47.26	98.12	38.57	31.96	10.88	30.55	100	98	P	V
		5719.6	51.35	-59.34	110.69	39.05	32	10.87	30.57	100	98	P	V
		5722.6	52.16	-64.57	116.73	39.86	32	10.87	30.57	100	98	P	V
	*	5785	109.8	-	-	97.42	32.14	10.85	30.61	100	98	P	V
	*	5785	101.51	-	-	89.13	32.14	10.85	30.61	100	98	A	V
		5850.4	51.73	-69.56	121.29	39.2	32.2	10.98	30.65	100	98	P	V
		5855	51.21	-59.59	110.8	38.65	32.22	10.99	30.65	100	98	P	V
		5901.6	52.69	-32.79	85.48	39.86	32.4	11.11	30.68	100	98	P	V
		5932	52.38	-15.82	68.2	39.44	32.46	11.18	30.7	100	98	P	V
													V
													V



WIFI Ant. 1	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	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	106.66	-	-	94.18	32.2	10.91	30.63	256	293	P	H	
	*	5825	98.01	-	-	85.53	32.2	10.91	30.63	256	293	A	H	
		5850	61.61	-60.59	122.2	49.08	32.2	10.98	30.65	256	293	P	H	
		5856.6	59.64	-50.71	110.35	47.07	32.23	10.99	30.65	256	293	P	H	
		5877.2	54.91	-48.66	103.57	42.22	32.31	11.04	30.66	256	293	P	H	
		5948.4	52.28	-15.92	68.2	39.27	32.5	11.22	30.71	256	293	P	H	
														H
														H
	*	5825	109.88	-	-	97.4	32.2	10.91	30.63	102	99	P	V	
	*	5825	101.98	-	-	89.5	32.2	10.91	30.63	102	99	A	V	
		5850.2	67.63	-54.11	121.74	55.1	32.2	10.98	30.65	102	99	P	V	
		5856.8	62.94	-47.36	110.3	50.37	32.23	10.99	30.65	102	99	P	V	
		5876.4	57.7	-46.46	104.16	45.01	32.31	11.04	30.66	102	99	P	V	
		5942	52.53	-15.67	68.2	39.54	32.48	11.21	30.7	102	99	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	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	47.94	-26.06	74	53.47	40.48	14.89	60.9	100	0	P	H
		17235	51.23	-16.97	68.2	50.14	40.94	18.97	58.82	100	0	P	H
		18000	60.6	-13.4	74	49.87	48.8	19.83	57.9	100	242	P	H
		18000	50.6	-3.4	54	39.87	48.8	19.83	57.9	100	242	A	H
		11490	48.18	-25.82	74	53.71	40.48	14.89	60.9	100	0	P	V
		17235	50.67	-17.53	68.2	49.58	40.94	18.97	58.82	100	0	P	V
		17989	60	-14	74	49.51	48.58	19.82	57.91	300	195	P	V
		17989	50	-4	54	39.51	48.58	19.82	57.91	300	195	A	V
802.11n HT20 CH 157 5785MHz		11570	48.16	-25.84	74	53.87	40.29	14.98	60.98	100	0	P	H
		17355	51.34	-16.86	68.2	49.15	41.75	19.11	58.67	100	0	P	H
		17978	60.09	-13.91	74	49.86	48.36	19.8	57.93	100	242	P	H
		17978	50.09	-3.91	54	39.86	48.36	19.8	57.93	100	242	A	H
		11570	48.05	-25.95	74	53.76	40.29	14.98	60.98	100	0	P	V
		17355	51.14	-17.06	68.2	48.95	41.75	19.11	58.67	100	0	P	V
		18000	59.75	-14.25	74	49.02	48.8	19.83	57.9	300	195	P	V
		18000	49.75	-4.25	54	39.02	48.8	19.83	57.9	300	195	A	V
802.11n HT20 CH 165 5825MHz		11650	47.85	-26.15	74	54.02	39.85	15.06	61.08	100	0	P	H
		17475	52.46	-15.74	68.2	49.25	42.5	19.24	58.53	100	0	P	H
		18000	59.98	-14.02	74	49.25	48.8	19.83	57.9	100	242	P	H
		18000	49.98	-4.02	54	39.25	48.8	19.83	57.9	100	242	A	H
		11650	49.47	-24.53	74	55.64	39.85	15.06	61.08	100	0	P	V
		17475	52.15	-16.05	68.2	48.94	42.5	19.24	58.53	100	0	P	V
		18000	60.14	-13.86	74	49.41	48.8	19.83	57.9	300	195	P	V
		18000	50.14	-3.86	54	39.41	48.8	19.83	57.9	300	195	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**Emission above 18GHz**

**5GHz WIFI 802.11n HT20 (SHF @ 1m)**

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 802.11n HT20 SHF		23610	41.81	-32.19	74	42.24	39.85	13.02	53.3	150	0	P	H	
		39780	49.85	-24.15	74	39.53	45.01	19.96	54.65	150	0	P	H	
													H	
													H	
			23522	41.65	-26.55	68.2	42.19	39.73	13.03	53.3	150	0	P	V
			39890	49.89	-24.11	74	39.14	45.06	20.17	54.48	150	0	P	V
														V
													V	
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against limit line.													



Emission below 1GHz

5GHz WIFI 802.11n HT20 (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		( MHz )	( dBμV/m )	( dB )	( dBμV/m )	( dBμV )	( dB/m )	( dB )	( dB )	( cm )	( deg )	( P/A )	( H/V )	
5GHz 802.11n HT20 LF		69.77	29.38	-10.62	40	48.17	12.68	1.09	32.56	-	-	P	H	
		185.2	36.97	-6.53	43.5	52.37	15.06	1.92	32.38	100	0	P	H	
		259.89	34.99	-11.01	46	45.5	19.64	2.28	32.43	-	-	P	H	
		334.58	34.84	-11.16	46	45.04	19.76	2.5	32.46	-	-	P	H	
		408.3	32.85	-13.15	46	40.17	22.13	2.76	32.21	-	-	P	H	
		896.21	38.42	-7.58	46	37.5	28.58	4.29	31.95	-	-	P	H	
														H
														H
														H
														H
														H
														H
			69.77	22.88	-17.12	40	41.67	12.68	1.09	32.56	-	-	P	V
			185.2	28.81	-14.69	43.5	44.21	15.06	1.92	32.38	-	-	P	V
			259.89	25.48	-20.52	46	35.99	19.64	2.28	32.43	-	-	P	V
			408.3	29.49	-16.51	46	36.81	22.13	2.76	32.21	-	-	P	V
			888.45	38.15	-7.85	46	37.31	28.5	4.26	31.92	-	-	P	V
			896.21	38.3	-7.7	46	37.38	28.58	4.29	31.95	100	0	P	V
													V	
													V	
													V	
													V	
													V	
													V	
Remark	1. No other spurious found. 2. All results are PASS against limit line.													



**Band 4 - 5725~5850MHz**  
**WIFI 802.11a (Band Edge @ 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.		
2		( MHz )	( dBμV/m )	( dB )	( dBμV/m )	( dBμV )	( dB/m )	( dB )	( dB )	( cm )	( deg )	(P/A)	(H/V)	
802.11a CH 149 5745MHz		5609.6	51.63	-16.57	68.2	39.36	31.88	10.89	30.5	246	198	P	H	
		5700	53.44	-51.76	105.2	41.12	32	10.87	30.55	246	198	P	H	
		5718.6	65.97	-44.44	110.41	53.67	32	10.87	30.57	246	198	P	H	
		5720.2	66.3	-44.96	111.26	54	32	10.87	30.57	246	198	P	H	
	*	5745	107.51	-	-	95.23	32	10.86	30.58	246	198	P	H	
	*	5745	99.65	-	-	87.37	32	10.86	30.58	246	198	A	H	
														H
														H
			5633.4	51.27	-16.93	68.2	39.06	31.83	10.89	30.51	258	231	P	V
			5699.4	53.17	-51.59	104.76	40.85	32	10.87	30.55	258	231	P	V
			5717.8	63.02	-47.16	110.18	50.72	32	10.87	30.57	258	231	P	V
			5723.2	67.63	-50.47	118.1	55.33	32	10.87	30.57	258	231	P	V
	*		5745	106.83	-	-	94.55	32	10.86	30.58	258	231	P	V
	*		5745	98.9	-	-	86.62	32	10.86	30.58	258	231	A	V
														V
														V





WIFI Ant. 2	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )	
802.11a CH 157 5785MHz		5641.8	51.02	-17.18	68.2	38.83	31.82	10.89	30.52	251	194	P	H	
		5695.4	51.34	-50.47	101.81	39.03	31.98	10.88	30.55	251	194	P	H	
		5719.6	51.04	-59.65	110.69	38.74	32	10.87	30.57	251	194	P	H	
		5724.6	52.19	-69.1	121.29	39.89	32	10.87	30.57	251	194	P	H	
	*	5785	106.71	-	-	94.33	32.14	10.85	30.61	251	194	P	H	
	*	5785	99.16	-	-	86.78	32.14	10.85	30.61	251	194	A	H	
		5850.8	50.67	-69.71	120.38	38.14	32.2	10.98	30.65	251	194	P	H	
		5855.4	51.34	-59.35	110.69	38.78	32.22	10.99	30.65	251	194	P	H	
		5899.6	51.82	-35.14	86.96	39	32.4	11.1	30.68	251	194	P	H	
		5945.2	52.67	-15.53	68.2	39.68	32.49	11.21	30.71	251	194	P	H	
														H
														H
			5619.2	51.25	-16.95	68.2	39	31.86	10.89	30.5	257	231	P	V
			5654.6	50.16	-21.46	71.62	37.99	31.82	10.88	30.53	257	231	P	V
			5715.4	50.97	-58.54	109.51	38.66	32	10.87	30.56	257	231	P	V
			5723	50.59	-67.05	117.64	38.29	32	10.87	30.57	257	231	P	V
	*		5785	105.9	-	-	93.52	32.14	10.85	30.61	257	231	P	V
	*		5785	98.17	-	-	85.79	32.14	10.85	30.61	257	231	A	V
			5851.6	51.38	-67.17	118.55	38.84	32.21	10.98	30.65	257	231	P	V
			5866	51.09	-56.63	107.72	38.47	32.26	11.02	30.66	257	231	P	V
		5895.4	51.71	-38.36	90.07	38.92	32.38	11.09	30.68	257	231	P	V	
		5947.4	51.71	-16.49	68.2	38.71	32.49	11.22	30.71	257	231	P	V	
													V	
													V	



WIFI Ant. 2	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	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	106.69	-	-	94.21	32.2	10.91	30.63	261	197	P	H	
	*	5825	98.76	-	-	86.28	32.2	10.91	30.63	261	197	A	H	
		5850.8	59.67	-60.71	120.38	47.14	32.2	10.98	30.65	261	197	P	H	
		5855.4	55.81	-54.88	110.69	43.25	32.22	10.99	30.65	261	197	P	H	
		5879.8	54.29	-47.34	101.63	41.59	32.32	11.05	30.67	261	197	P	H	
		5927.6	51.68	-16.52	68.2	38.75	32.46	11.17	30.7	261	197	P	H	
														H
														H
	*	5825	105.75	-	-	93.27	32.2	10.91	30.63	250	231	P	V	
	*	5825	97.98	-	-	85.5	32.2	10.91	30.63	250	231	A	V	
		5850.6	59.91	-60.92	120.83	47.38	32.2	10.98	30.65	250	231	P	V	
		5855	56.26	-54.54	110.8	43.7	32.22	10.99	30.65	250	231	P	V	
		5886.8	52.19	-44.25	96.44	39.44	32.35	11.07	30.67	250	231	P	V	
		5947	52.1	-16.1	68.2	39.1	32.49	11.22	30.71	250	231	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. 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	47.87	-26.13	74	53.4	40.48	14.89	60.9	100	0	P	H
		17235	51.09	-17.11	68.2	50	40.94	18.97	58.82	100	0	P	H
		17945	59.99	-14.01	74	50.49	47.7	19.77	57.97	100	54	P	H
		17945	49.99	-4.01	54	40.49	47.7	19.77	57.97	100	54	A	H
		11490	48.53	-25.47	74	54.06	40.48	14.89	60.9	100	0	P	V
		17235	50.4	-17.8	68.2	49.31	40.94	18.97	58.82	100	0	P	V
		17956	59.11	-14.89	74	49.36	47.92	19.78	57.95	200	309	P	V
		17956	50.11	-3.89	54	40.36	47.92	19.78	57.95	200	309	A	V
802.11a CH 157 5785MHz		11570	48.12	-25.88	74	53.83	40.29	14.98	60.98	100	0	P	H
		17355	51.06	-17.14	68.2	48.87	41.75	19.11	58.67	100	0	P	H
		17945	59.49	-14.51	74	49.99	47.7	19.77	57.97	100	54	P	H
		17945	49.49	-4.51	54	39.99	47.7	19.77	57.97	100	54	A	H
		11570	48.44	-25.56	74	54.15	40.29	14.98	60.98	100	0	P	V
		17355	51.8	-16.4	68.2	49.61	41.75	19.11	58.67	100	0	P	V
		17956	59.16	-14.84	74	49.41	47.92	19.78	57.95	300	309	P	V
		17956	50.16	-3.84	54	40.41	47.92	19.78	57.95	300	309	A	V
802.11a CH 165 5825MHz		11650	48.54	-25.46	74	54.71	39.85	15.06	61.08	100	0	P	H
		17475	52.33	-15.87	68.2	49.12	42.5	19.24	58.53	100	0	P	H
		17956	59.02	-14.98	74	49.27	47.92	19.78	57.95	100	54	P	H
		17956	49.21	-4.79	54	39.46	47.92	19.78	57.95	100	54	A	H
		11650	48.37	-25.63	74	54.54	39.85	15.06	61.08	100	0	P	V
		17475	52.09	-16.11	68.2	48.88	42.5	19.24	58.53	100	0	P	V
		17989	60.52	-13.48	74	50.03	48.58	19.82	57.91	200	309	P	V
		17989	49.69	-4.31	54	39.2	48.58	19.82	57.91	200	309	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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

WIFI Ant. 2	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	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		5630.8	51.92	-16.28	68.2	39.7	31.84	10.89	30.51	233	199	P	H	
		5695.8	53.38	-48.72	102.1	41.08	31.98	10.87	30.55	233	199	P	H	
		5714.4	63.86	-45.37	109.23	51.55	32	10.87	30.56	233	199	P	H	
		5722.2	66.16	-49.66	115.82	53.86	32	10.87	30.57	233	199	P	H	
	*	5745	106.48	-	-	94.2	32	10.86	30.58	233	199	P	H	
	*	5745	98.91	-	-	86.63	32	10.86	30.58	233	199	A	H	
														H
														H
			5645.4	51.52	-16.68	68.2	39.34	31.81	10.89	30.52	258	230	P	V
			5697.4	52.56	-50.72	103.28	40.25	31.99	10.87	30.55	258	230	P	V
			5719.8	62.49	-48.25	110.74	50.19	32	10.87	30.57	258	230	P	V
			5724.8	66.97	-54.77	121.74	54.67	32	10.87	30.57	258	230	P	V
	*		5745	106.37	-	-	94.09	32	10.86	30.58	258	230	P	V
	*		5745	98.47	-	-	86.19	32	10.86	30.58	258	230	A	V
														V
														V



WIFI Ant. 2	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )
		5601.2	51.57	-16.63	68.2	39.26	31.9	10.9	30.49	248	195	P	H
		5664.8	51.19	-28	79.19	38.98	31.86	10.88	30.53	248	195	P	H
		5705.6	51.55	-55.22	106.77	39.24	32	10.87	30.56	248	195	P	H
		5722.4	51.15	-65.12	116.27	38.85	32	10.87	30.57	248	195	P	H
	*	5785	107.24	-	-	94.86	32.14	10.85	30.61	248	195	P	H
	*	5785	99.35	-	-	86.97	32.14	10.85	30.61	248	195	A	H
		5854.2	51.45	-61.17	112.62	38.89	32.22	10.99	30.65	248	195	P	H
		5857	53.46	-56.78	110.24	40.89	32.23	10.99	30.65	248	195	P	H
		5895	51.86	-38.5	90.36	39.06	32.38	11.09	30.67	248	195	P	H
		5930.4	52.04	-16.16	68.2	39.1	32.46	11.18	30.7	248	195	P	H
													H
													H
<b>802.11n</b>													
<b>HT20</b>													
<b>CH 157</b>		5638.4	51.47	-16.73	68.2	39.28	31.82	10.89	30.52	257	231	P	V
<b>5785MHz</b>		5672.6	50.76	-34.2	84.96	38.53	31.89	10.88	30.54	257	231	P	V
		5708	50.52	-56.92	107.44	38.21	32	10.87	30.56	257	231	P	V
		5724.6	51.84	-69.45	121.29	39.54	32	10.87	30.57	257	231	P	V
	*	5785	106.46	-	-	94.08	32.14	10.85	30.61	257	231	P	V
	*	5785	98.13	-	-	85.75	32.14	10.85	30.61	257	231	A	V
		5851.2	51.03	-68.43	119.46	38.5	32.2	10.98	30.65	257	231	P	V
		5866.6	50.88	-56.67	107.55	38.25	32.27	11.02	30.66	257	231	P	V
		5897.8	52.45	-35.84	88.29	39.64	32.39	11.1	30.68	257	231	P	V
		5942	51.64	-16.56	68.2	38.65	32.48	11.21	30.7	257	231	P	V
													V
													V



WIFI Ant. 2	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	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	106.94	-	-	94.46	32.2	10.91	30.63	258	197	P	H	
	*	5825	99.42	-	-	86.94	32.2	10.91	30.63	258	197	A	H	
		5850.4	59.97	-61.32	121.29	47.44	32.2	10.98	30.65	258	197	P	H	
		5861.6	55.24	-53.71	108.95	42.63	32.25	11.01	30.65	258	197	P	H	
		5875.2	53.61	-51.44	105.05	40.93	32.3	11.04	30.66	258	197	P	H	
		5927	52.77	-15.43	68.2	39.84	32.45	11.17	30.69	258	197	P	H	
														H
														H
	*	5825	106.61	-	-	94.13	32.2	10.91	30.63	251	232	P	V	
	*	5825	98.56	-	-	86.08	32.2	10.91	30.63	251	232	A	V	
		5850.4	57.13	-64.16	121.29	44.6	32.2	10.98	30.65	251	232	P	V	
		5859.2	54.02	-55.6	109.62	41.43	32.24	11	30.65	251	232	P	V	
		5881.8	52.59	-47.56	100.15	39.87	32.33	11.06	30.67	251	232	P	V	
		5945.4	52.54	-15.66	68.2	39.54	32.49	11.22	30.71	251	232	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. 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	47.11	-26.89	74	52.64	40.48	14.89	60.9	100	0	P	H
		17235	50.68	-17.52	68.2	49.59	40.94	18.97	58.82	100	0	P	H
		17978	60.87	-13.13	74	50.64	48.36	19.8	57.93	100	54	P	H
		17978	50.87	-3.13	54	40.64	48.36	19.8	57.93	100	54	A	H
		11490	47.77	-26.23	74	53.3	40.48	14.89	60.9	100	0	P	V
		17235	49.68	-18.52	68.2	48.59	40.94	18.97	58.82	100	0	P	V
		17945	59.62	-14.38	74	50.12	47.7	19.77	57.97	200	309	P	V
		17945	50.62	-3.38	54	41.12	47.7	19.77	57.97	200	309	A	V
802.11n HT20 CH 157 5785MHz		11570	48.05	-25.95	74	53.76	40.29	14.98	60.98	100	0	P	H
		17355	50.89	-17.31	68.2	48.7	41.75	19.11	58.67	100	0	P	H
		17978	60.29	-13.71	74	50.06	48.36	19.8	57.93	100	54	P	H
		17978	50.29	-3.71	54	40.06	48.36	19.8	57.93	100	54	A	H
		11570	48.23	-25.77	74	53.94	40.29	14.98	60.98	100	0	P	V
		17355	50.8	-17.4	68.2	48.61	41.75	19.11	58.67	100	0	P	V
		17934	60.18	-13.82	74	50.92	47.48	19.76	57.98	200	309	P	V
		17934	50.68	-3.32	54	41.42	47.48	19.76	57.98	200	309	A	V
802.11n HT20 CH 165 5825MHz		11650	47.57	-26.43	74	53.74	39.85	15.06	61.08	100	0	P	H
		17475	51.87	-16.33	68.2	48.66	42.5	19.24	58.53	100	0	P	H
		17989	60.43	-13.57	74	49.94	48.58	19.82	57.91	100	54	P	H
		17989	50.43	-3.57	54	39.94	48.58	19.82	57.91	100	54	A	H
		11650	48.62	-25.38	74	54.79	39.85	15.06	61.08	100	0	P	V
		17475	52.32	-15.88	68.2	49.11	42.5	19.24	58.53	100	0	P	V
		17978	60.22	-13.78	74	49.99	48.36	19.8	57.93	200	309	P	V
		17978	50.62	-3.38	54	40.39	48.36	19.8	57.93	200	309	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**Emission above 18GHz**

**5GHz WIFI 802.11n HT20 (SHF @ 1m)**

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		( MHz )	( dBµV/m )	( dB )	( dBµV/m )	( dBµV )	( dB/m )	( dB )	( dB )	( cm )	( deg )	( P/A )	( H/V )
5GHz 802.11n HT20 SHF		23610	41.81	-32.19	74	42.24	39.85	13.02	53.3	150	0	P	H
		39780	49.85	-24.15	74	39.53	45.01	19.96	54.65	150	0	P	H
													H
													H
		23522	41.65	-26.55	68.2	42.19	39.73	13.03	53.3	150	0	P	V
		39890	49.89	-24.11	74	39.14	45.06	20.17	54.48	150	0	P	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 Plots

Test Engineer :	Leo Lee, Mancy Chou, and Bigshow Wang	Temperature :	22.1~23.1°C
		Relative Humidity :	55~60%

### Note symbol

-L	Low channel location
-R	High channel location



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

<b>WIFI</b>	<b>Band 4 5725~5850MHz Band Edge @ 3m</b>	
<b>ANT</b>	<b>802.11a CH149 5745MHz</b>	
<b>1</b>	<b>Horizontal</b>	<b>Fundamental</b>
<b>Peak</b>	<p>Site : 03CH15-HY          Condition : PEAK_SE[94]_16-24 3m 91200_15_1620 HORIZONTAL          : RBW:1000.000KHz VSW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH15-HY          Condition : PEAK[LINE] 3m 91200_15_1620 HORIZONTAL          : RBW:1000.000KHz VSW:3000.000KHz SWT:Auto</p>

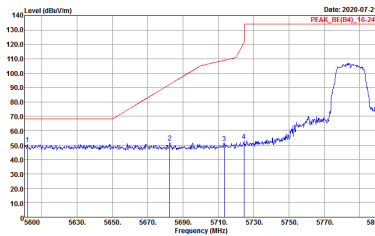
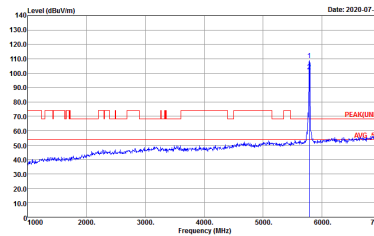
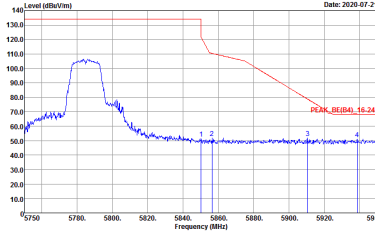


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
1	Vertical	Fundamental
Peak	<p>Site : 03CH15-HY Condition : PEAK_BE(B4)_15-24 3m 91200_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH15-HY Condition : PEAK(FUNDF)_15-24 3m 91200_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>



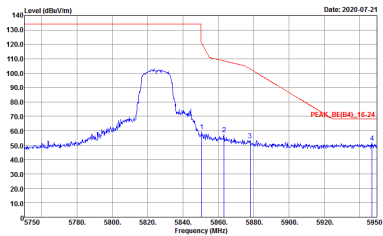
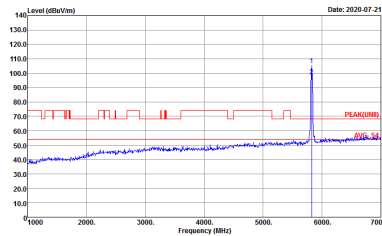
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
1	Horizontal	Fundamental
Peak	<p>Site : 03CH15-HY Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH15-HY Condition : PEAK(LINE) 3m 91200_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Peak	<p>Site : 03CH15-HY Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
1	Vertical	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : PEAK(LINE) 3m 91200_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Peak	 <p>Site : 03CH15-HY Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	Left blank





WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
1	Horizontal	Fundamental
Peak	 <p>Site : 03CH15-HY          Condition : PEAK_B([B4]_16-24 3m 91200_15_1620 HORIZONTAL          : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY          Condition : PEAK(LINE) 3m 91200_15_1620 HORIZONTAL          : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
1	Vertical	Fundamental
Peak	<div style="display: flex; justify-content: space-around;"> <div style="width: 45%;"> <p>Site : 03CH15-HY Condition : PEAK_06[04]_16-24 3m 91200_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p> </div> <div style="width: 45%;"> <p>Site : 03CH15-HY Condition : PEAK[LINE] 3m 91200_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p> </div> </div>	



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

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1	Horizontal	Fundamental
Peak	<p>Site : 03CH15-HY Condition : PEAK_BE(84)_16-24 3m 91200_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH15-HY Condition : PEAK(UNII) 3m 91200_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1	Vertical	Fundamental
Peak	<p>Site : 03CH15-HY          Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 VERTICAL          : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH15-HY          Condition : PEAK(LINE) 3m 91200_15_1620 VERTICAL          : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1	Horizontal	Fundamental
Peak	<p>Date: 2020-07-21 PEAK_BE(B4)_15-24</p> <p>Site : 03CH15-HY Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Date: 2020-07-21 PEAK(LINE)</p> <p>Site : 03CH15-HY Condition : PEAK(LINE) 3m 91200_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Peak	<p>Date: 2020-07-21 PEAK_BE(B4)_16-24</p> <p>Site : 03CH15-HY Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1	Vertical	Fundamental
Peak		
Peak		Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1	Horizontal	Fundamental
Peak	<div style="display: flex; justify-content: space-around;"> <div data-bbox="427 450 813 728"> <p>Site : 03CH15-HY Condition : PEAK_BC[94]_16-24 3m 91200_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p> </div> <div data-bbox="901 450 1287 728"> <p>Site : 03CH15-HY Condition : PEAK[LINE] 3m 91200_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p> </div> </div>	



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1	Vertical	Fundamental
Peak	<p>Site : 03CH15-HY Condition : PEAK_BI(B4)_16-24 3m 91200_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH15-HY Condition : PEAK(LINE) 3m 91200_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>

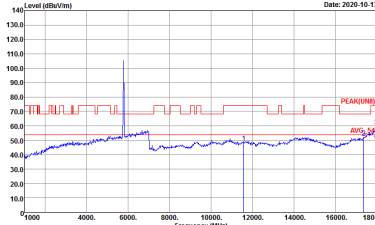
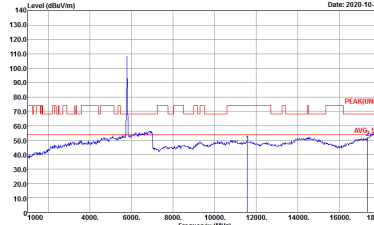




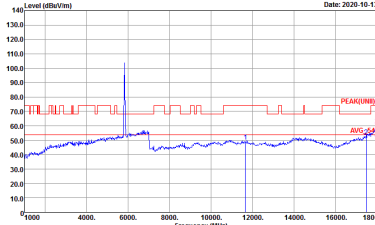
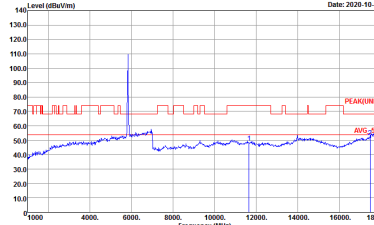
**Band 4 - 5725~5850MHz**  
**WIFI 802.11a (Harmonic @ 3m)**

<b>WIFI</b>	<b>Band 4 5725~5850MHz Harmonic @ 3m</b>	
<b>ANT</b>	<b>802.11a CH149 5745MHz</b>	
<b>1</b>	<b>Horizontal</b>	<b>Vertical</b>
<b>Peak</b> <b>Avg.</b>	<p>Site : 03CH15-HY          Condition : PEAK(UNII) 3m 91200_15_1620 HORIZONTAL          Detector : Peak</p>	<p>Site : 03CH15-HY          Condition : PEAK(UNII) 3m 91200_15_1620 VERTICAL          Detector : Peak</p>



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH157 5785MHz	
1	Horizontal	Vertical
Peak Avg.	 <p>Site : 03CH15-HY Condition : PEAK(UNII) 3m 91200_15_1620 HORIZONTAL</p>	 <p>Site : 03CH15-HY Condition : PEAK(UNII) 3m 91200_15_1620 VERTICAL</p>



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH165 5825MHz	
1	Horizontal	Vertical
Peak Avg.	 <p>Site : 03CH15-HY Condition : PEAK(UNII) 3m 91200_15_1620 HORIZONTAL</p>	 <p>Site : 03CH15-HY Condition : PEAK(UNII) 3m 91200_15_1620 VERTICAL</p>



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

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1	Horizontal	Vertical
<b>Peak</b> <b>Avg.</b>	<p>Site : 03CH15-HY Condition : PEAK(LINE) 3m 91200_15_1620 HORIZONTAL</p>	<p>Site : 03CH15-HY Condition : PEAK(LINE) 3m 91200_15_1620 VERTICAL</p>



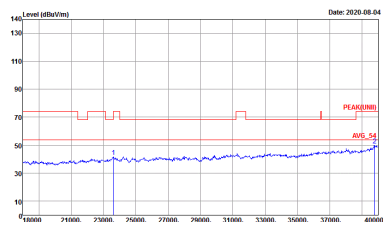
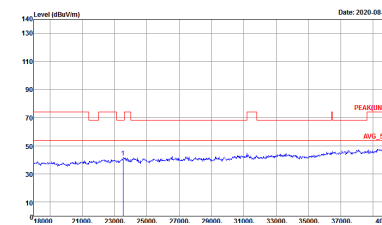
<b>WIFI</b>	<b>Band 4 5725~5850MHz Harmonic @ 3m</b>	
<b>ANT</b>	<b>802.11n HT20 CH157 5785MHz</b>	
<b>1</b>	<b>Horizontal</b>	<b>Vertical</b>
<b>Peak</b> <b>Avg.</b>	<p>Site : 03CH15-HY Condition : PEAK(UNII) 3m 91200_15_1620 HORIZONTAL</p>	<p>Site : 03CH15-HY Condition : PEAK(UNII) 3m 91200_15_1620 VERTICAL</p>



<b>WIFI</b>	<b>Band 4 5725~5850MHz Harmonic @ 3m</b>	
<b>ANT</b>	<b>802.11n HT20 CH165 5825MHz</b>	
<b>1</b>	<b>Horizontal</b>	<b>Vertical</b>
<b>Peak</b> <b>Avg.</b>	<p>Site : 03CH15-HY Condition : PEAK(UNII) 3m 91200_15_1620 HORIZONTAL</p>	<p>Site : 03CH15-HY Condition : PEAK(UNII) 3m 91200_15_1620 VERTICAL</p>

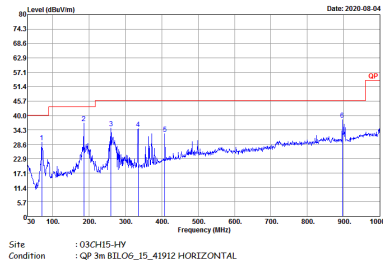
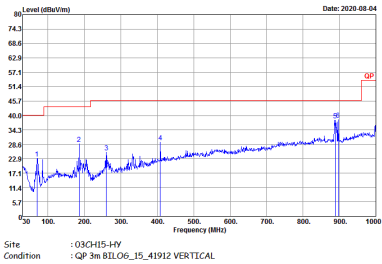


Emission above 18GHz  
5GHz WIFI 802. 11n HT20 (SHF)

WIFI	5GHz 5725~5850MHz	
ANT	802. 11n HT20 SHF	
1	Horizontal	Vertical
Peak Avg.		



Emission below 1GHz  
5GHz WIFI 802.11n HT20 (LF)

WIFI	5GHz 5725~5850MHz	
ANT	802.11n HT20 LF	
1	Horizontal	Vertical
QP / Peak	 <p>Site : 03CH15-HY Condition : QP 3m 81LOG_15_41912 HORIZONTAL</p>	 <p>Site : 03CH15-HY Condition : QP 3m 81LOG_15_41912 VERTICAL</p>





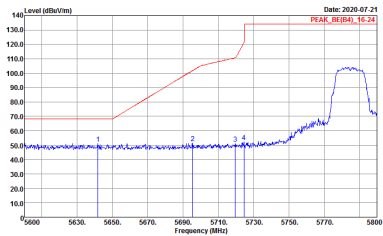
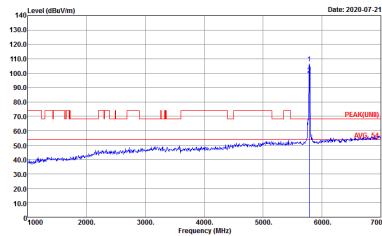
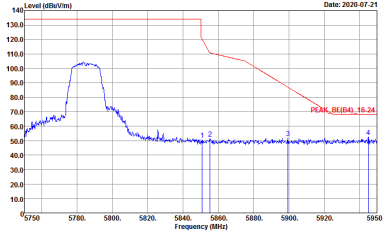
**Band 4 - 5725~5850MHz**  
**WIFI 802.11a (Band Edge @ 3m)**

<b>WIFI</b>	<b>Band 4 5725~5850MHz Band Edge @ 3m</b>	
<b>ANT</b>	<b>802.11a CH149 5745MHz</b>	
<b>2</b>	<b>Horizontal</b>	<b>Fundamental</b>
<b>Peak</b>	<p>Site : 03CH15-HY          Condition : PEAK_SE[94]_16-24 3m 91200_15_1620 HORIZONTAL          : RBW:1000.000KHz VSW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH15-HY          Condition : PEAK[LINE] 3m 91200_15_1620 HORIZONTAL          : RBW:1000.000KHz VSW:3000.000KHz SWT:Auto</p>

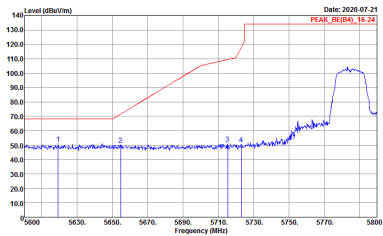
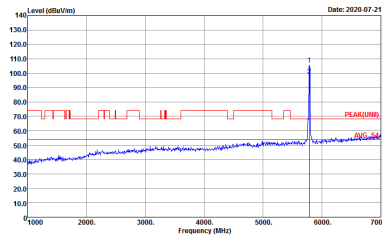
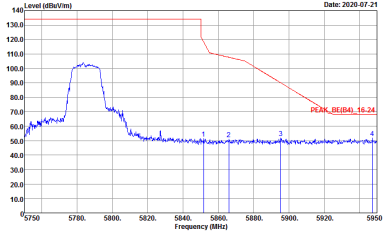


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
2	Vertical	Fundamental
Peak	<p>Site : 03CH15-HY Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH15-HY Condition : PEAK(LINE) 3m 91200_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>

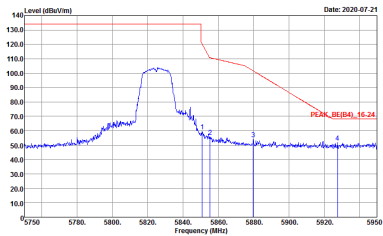
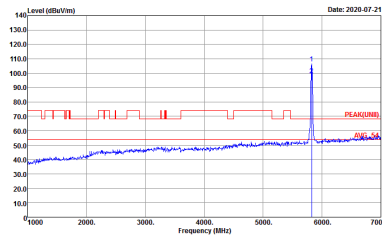


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
2	Horizontal	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : PEAK(LINE) 3m 91200_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Peak	 <p>Site : 03CH15-HY Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
2	Vertical	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : PEAK_BE(84)_16-24 3m 91200_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : PEAK(LINE) 3m 91200_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Peak	 <p>Site : 03CH15-HY Condition : PEAK_BE(84)_16-24 3m 91200_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
2	Horizontal	Fundamental
Peak	 <p>Site : 03CH15-HY          Condition : PEAK_BI(B4)_16-24 3m 91200_15_1620 HORIZONTAL          : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY          Condition : PEAK(LINE) 3m 91200_15_1620 HORIZONTAL          : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>



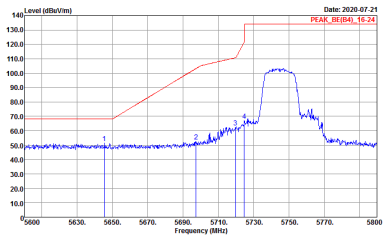
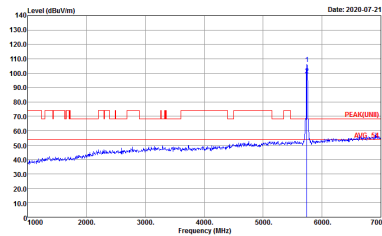
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
2	Vertical	Fundamental
Peak	<p>Site : 03CH15-HY Condition : PEAK_B4(B4)_16-24 3m 91200_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH15-HY Condition : PEAK(FUN1) 3m 91200_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>



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

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
2	Horizontal	Fundamental
Peak	<p>Site : 03CH15-HY Condition : PEAK_BE(84)_16-24 3m 91200_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH15-HY Condition : PEAK(UNII) 3m 91200_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>



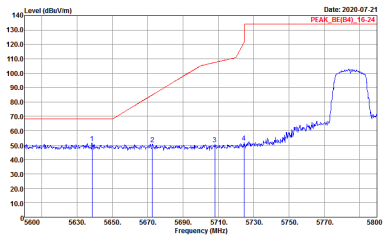
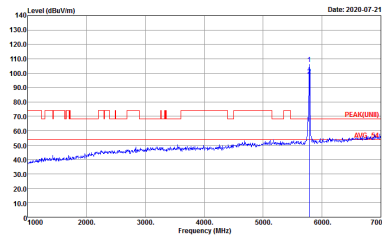
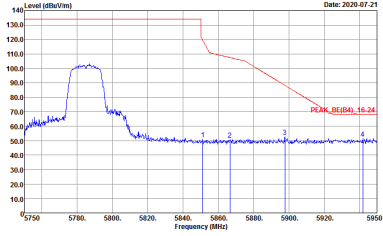
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
2	Vertical	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : PEAK_06[94]_16-24 3m 91200_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : PEAK[LINE] 3m 91200_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>



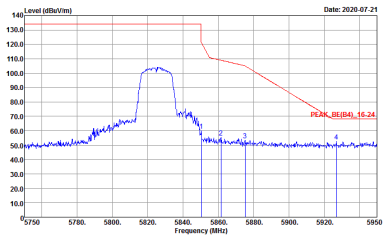
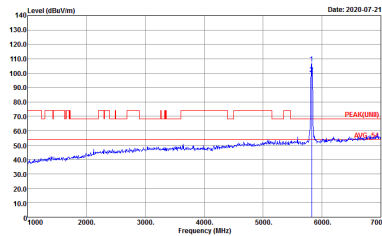


WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
2	Horizontal	Fundamental
Peak	<p>Site : 03CH15-HY Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	<p>Site : 03CH15-HY Condition : PEAK(LINE) 3m 91200_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Peak	<p>Site : 03CH15-HY Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
2	Vertical	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY Condition : PEAK(LINE) 3m 91200_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>
Peak	 <p>Site : 03CH15-HY Condition : PEAK_BE(B4)_16-24 3m 91200_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	Left blank



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
2	Horizontal	Fundamental
Peak	 <p>Site : 03CH15-HY          Condition : PEAK_B1(B4)_16-24 3m 91200_15_1620 HORIZONTAL          : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>	 <p>Site : 03CH15-HY          Condition : PEAK(LINE) 3m 91200_15_1620 HORIZONTAL          : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p>



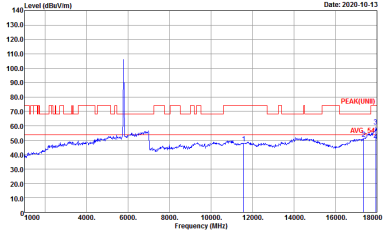
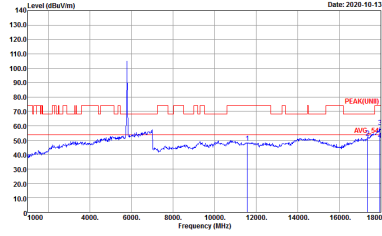
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
2	Vertical	Fundamental
Peak	<div style="display: flex; justify-content: space-around;"> <div style="width: 45%;"> <p>Site : 03CH15-HY Condition : PEAK_BU(B4)_16-24 3m 91200_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p> </div> <div style="width: 45%;"> <p>Site : 03CH15-HY Condition : PEAK(LINE) 3m 91200_15_1620 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto</p> </div> </div>	



**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>2</b>	<b>Horizontal</b>	<b>Vertical</b>
<b>Peak</b> <b>Avg.</b>	<p>Site : 03CH15-HY          Condition : PEAK(UNII) 3m 91200_15_1620 HORIZONTAL</p>	<p>Site : 03CH15-HY          Condition : PEAK(UNII) 3m 91200_15_1620 VERTICAL</p>



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH157 5785MHz	
2	Horizontal	Vertical
Peak Avg.	 <p>Site : 03CH15-HY Condition : PEAK(UNII) 3m 91200_15_1620 HORIZONTAL</p>	 <p>Site : 03CH15-HY Condition : PEAK(UNII) 3m 91200_15_1620 VERTICAL</p>



<b>WIFI</b>	<b>Band 4 5725~5850MHz Harmonic @ 3m</b>	
<b>ANT</b>	<b>802.11a CH165 5825MHz</b>	
<b>2</b>	<b>Horizontal</b>	<b>Vertical</b>
<b>Peak</b> <b>Avg.</b>	<p>Site : 03CH15-HY Condition : PEAK(UNII) 3m 91200_15_1620 HORIZONTAL</p>	<p>Site : 03CH15-HY Condition : PEAK(UNII) 3m 91200_15_1620 VERTICAL</p>



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

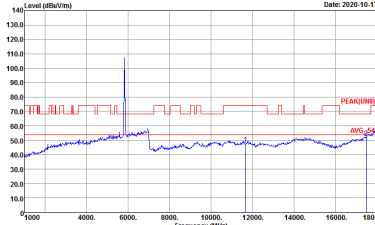
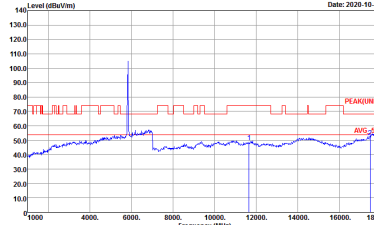
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
2	Horizontal	Vertical
Peak Avg.	<p>Site : 03CHS-14Y Condition : -PEAK(LINE) 3m 9120D_15_1620 HORIZONTAL</p>	<p>Site : 03CHS-14Y Condition : -PEAK(LINE) 3m 9120D_15_1620 VERTICAL</p>





<b>WIFI</b>	<b>Band 4 5725~5850MHz Harmonic @ 3m</b>	
<b>ANT</b>	<b>802.11n HT20 CH157 5785MHz</b>	
<b>2</b>	<b>Horizontal</b>	<b>Vertical</b>
<b>Peak</b> <b>Avg.</b>	<p>Site : 03CH15-HY Condition : PEAK(UNII) 3m 91200_15_1620 HORIZONTAL</p>	<p>Site : 03CH15-HY Condition : PEAK(UNII) 3m 91200_15_1620 VERTICAL</p>



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
2	Horizontal	Vertical
Peak Avg.	 <p>Site : 03CH15-HY Condition : PEAK(UNII) 3m 91200_15_1620 HORIZONTAL</p>	 <p>Site : 03CH15-HY Condition : PEAK(UNII) 3m 91200_15_1620 VERTICAL</p>



Emission above 18GHz  
5GHz WIFI 802. 11n HT20 (SHF)

WIFI	5GHz 5725-5850MHz	
ANT	802. 11n HT20 SHF	
2	Horizontal	Vertical
Peak Avg.	<p>Site : 03CH15-HY Condition : PEAK(UNIT) 1m SHF HORN 88HA9170584 HORIZONTAL</p>	<p>Site : 03CH15-HY Condition : PEAK(UNIT) 1m SHF HORN 88HA9170584 VERTICAL</p>



Emission below 1GHz  
5GHz WIFI 802.11n HT20 (LF)

WIFI	5GHz 5725~5850MHz	
ANT	802.11n HT20 LF	
2	Horizontal	Vertical
QP / Peak	<p>Site : 03CH15-HY Condition : QP 3m 81LOG_15_41912 HORIZONTAL</p>	<p>Site : 03CH15-HY Condition : QP 3m 81LOG_15_41912 VERTICAL</p>



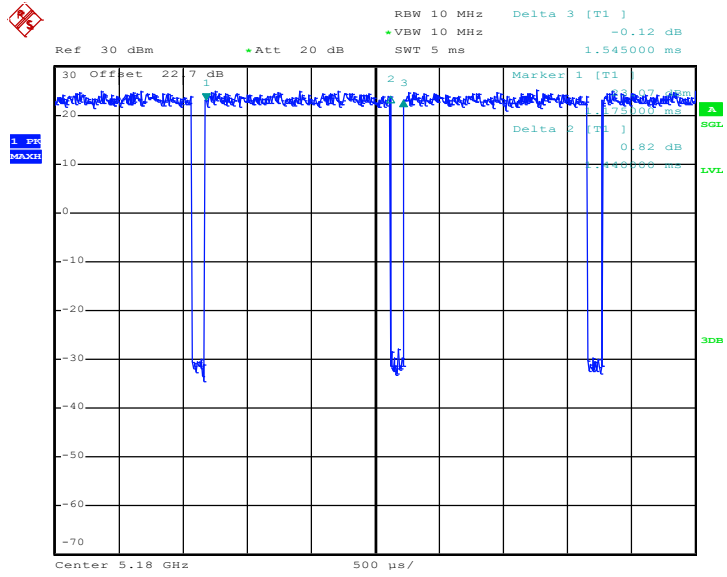
### Appendix E. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting	Duty Factor(dB)
1	802.11a	93.20	1440	0.69	1kHz	0.31
2	802.11a	92.23	1425	0.70	1kHz	0.35
1	5GHz 802.11n HT20	92.41	1340	0.75	1kHz	0.34
2	5GHz 802.11n HT20	92.44	1345	0.74	1kHz	0.34



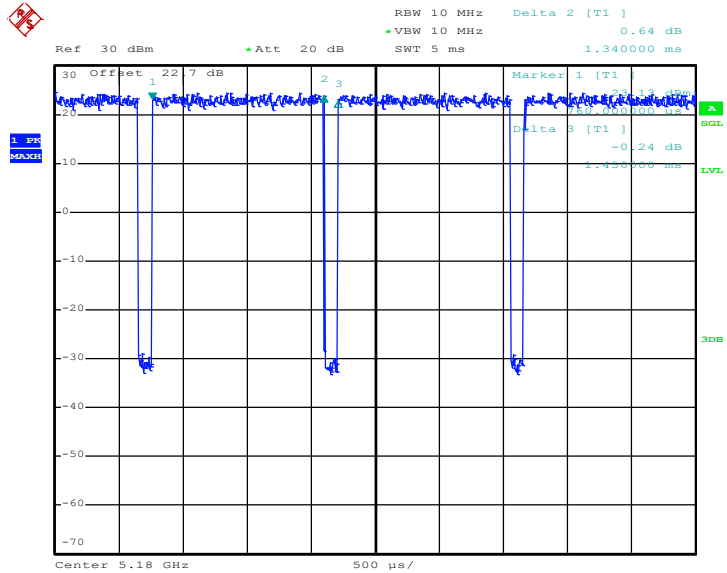
<Ant. 1>

802.11a



Date: 17.JUL.2020 13:53:52

802.11n HT20

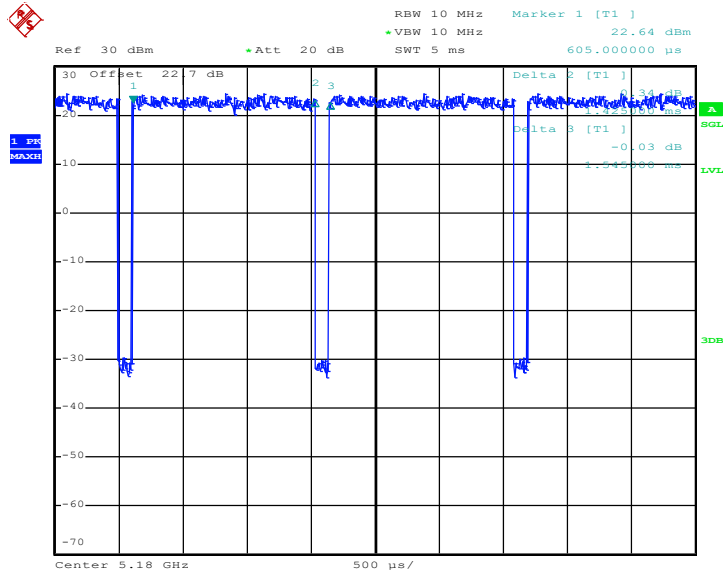


Date: 17.JUL.2020 14:07:17



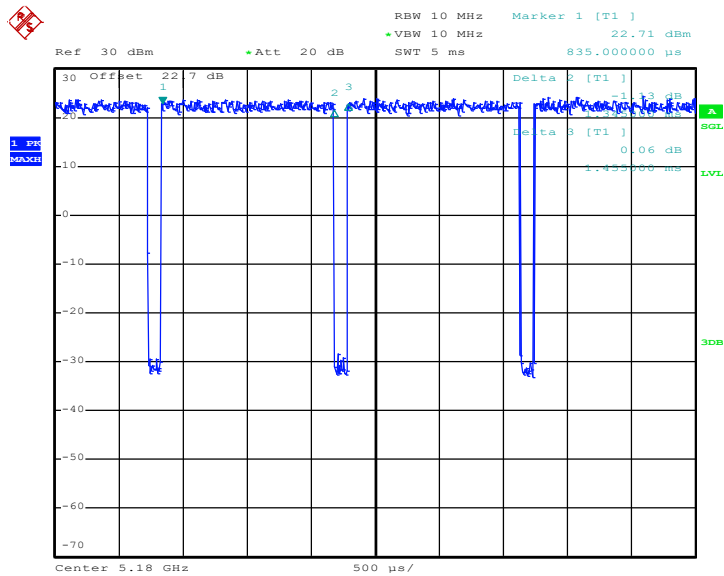
<Ant. 2>

802.11a



Date: 17.JUL.2020 13:58:04

802.11n HT20



Date: 17.JUL.2020 14:09:14

—THE END—