



# FCC RF Test Report

**APPLICANT** : Motorola Mobility LLC  
**EQUIPMENT** : Mobile Cellular Phone  
**BRAND NAME** : Motorola  
**MODEL NAME** : XT2231-1, XT2231-5  
**FCC ID** : IHDT56AC2  
**STANDARD** : FCC Part 15 Subpart E §15.407  
**CLASSIFICATION** : (NII) Unlicensed National Information Infrastructure  
**TEST DATE(S)** : Dec. 12, 2021 ~ Jan. 12, 2022

We, Sporton International Inc. (Shenzhen), 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. (Shenzhen), the test report shall not be reproduced except in full.

Reviewed by: Derreck Chen / Supervisor

Approved by: Eric Shih / Manager



**Sporton International Inc. (ShenZhen)**

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 People's Republic of China



# TABLE OF CONTENTS

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

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

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

    1.1 Applicant ..... 5

    1.2 Manufacturer ..... 5

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

    1.4 Product Specification of Equipment Under Test ..... 6

    1.5 Modification of EUT ..... 7

    1.6 Testing Location ..... 7

    1.7 Test Software ..... 7

    1.8 Applicable Standards ..... 8

    1.9 Specification of Accessory ..... 8

**2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST ..... 10**

    2.1 Carrier Frequency and Channel ..... 10

    2.2 Test Mode ..... 12

    2.3 Connection Diagram of Test System ..... 14

    2.4 Support Unit used in test configuration and system ..... 15

    2.5 EUT Operation Test Setup ..... 15

    2.6 Measurement Results Explanation Example ..... 15

**3 TEST RESULT ..... 16**

    3.1 26dB & 99% Occupied Bandwidth Measurement ..... 16

    3.2 Maximum Conducted Output Power Measurement ..... 21

    3.3 Power Spectral Density Measurement ..... 23

    3.4 Unwanted Emissions Measurement ..... 26

    3.5 AC Conducted Emission Measurement ..... 31

    3.6 Antenna Requirements ..... 33

**4 LIST OF MEASURING EQUIPMENT ..... 34**

**5 UNCERTAINTY OF EVALUATION ..... 35**

**APPENDIX A. CONDUCTED TEST RESULTS**

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

**APPENDIX C. RADIATED SPURIOUS EMISSION**

**APPENDIX D. DUTY CYCLE PLOTS**

**APPENDIX E. SETUP PHOTOGRAPHS**



### REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR1N1011D	Rev. 01	Initial issue of report	Jan. 25, 2022



### SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	2.1049 & 15.403(i)	26dB & 99% Bandwidth	-	Report only	-
3.2	15.407(a)	Maximum Conducted Output Power	≤ 24 dBm	Pass	-
3.3	15.407(a)	Power Spectral Density	≤ 11 dBm	Pass	-
3.4	15.407(b)	Unwanted Emissions	15.407(b) & 15.209(a)	Pass	Under limit 2.09 dB at 5726.120 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 6.69 dB at 11.320 MHz
3.6	15.203 & 15.407(a)	Antenna Requirement	15.203 & 15.407(a)	Pass	-

<b>Declaration of Conformity:</b>
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
<b>Comments and Explanations:</b>
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.



# 1 General Description

## 1.1 Applicant

Motorola Mobility LLC  
222 W,Merchandise Mart Plaza,Chicago,IL60654 USA

## 1.2 Manufacturer

Motorola Mobility LLC  
222 W,Merchandise Mart Plaza,Chicago,IL60654 USA

## 1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2231-1, XT2231-5
FCC ID	IHDT56AC2
IMEI Code	Conducted: 359986690032831/359986690038317 Conduction: 359986690052110/359986690053951 Radiation: 359986690042913/359986690045437 for Sample 1 359986690034720/359986690040206 for Sample 2 359986690053365/359986690055204 for Sample 3 359986690060196 for Sample 4
HW Version	PVT2
SW Version	STA32.48
EUT Stage	Identical Prototype

**Remark:**

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. There are two models XT2231-1 and XT2231-5. The detailed differences between two models can be referred to the XT2231-1, XT2231-5\_Operational Description of Product Equality Declaration exhibit separately



### 1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
<b>Tx/Rx Frequency Range</b>	5180 MHz ~ 5240 MHz 5260 MHz ~ 5320 MHz 5500 MHz ~ 5720 MHz
<b>Maximum Output Power to Antenna</b>	<p><b>&lt;5180 MHz ~ 5240 MHz&gt;</b>  802.11a : 14.65 dBm / 0.0292 W  802.11n HT20 : 14.40 dBm / 0.0275 W  802.11n HT40 : 14.32 dBm / 0.0270 W  802.11ac VHT20 : 14.34 dBm / 0.0272 W  802.11ac VHT40 : 14.25 dBm / 0.0266 W  802.11ac VHT80 : 12.20 dBm / 0.0166 W</p> <p><b>&lt;5260 MHz ~ 5320 MHz&gt;</b>  802.11a : 17.38 dBm / 0.0547 W  802.11n HT20 : 16.99 dBm / 0.0500 W  802.11n HT40 : 15.99 dBm / 0.0397 W  802.11ac VHT20 : 15.98 dBm / 0.0396 W  802.11ac VHT40 : 15.87 dBm / 0.0386 W  802.11ac VHT80 : 11.69 dBm / 0.0148 W</p> <p><b>&lt;5500 MHz ~ 5720 MHz &gt;</b>  802.11a : 16.98 dBm / 0.0499 W  802.11n HT20 : 16.38 dBm / 0.0435 W  802.11n HT40 : 15.46 dBm / 0.0352 W  802.11ac VHT20 : 15.38 dBm / 0.0345 W  802.11ac VHT40 : 15.39 dBm / 0.0346 W  802.11ac VHT80 : 15.42 dBm / 0.0348 W</p>
<b>99% Occupied Bandwidth</b>	<p><b>&lt;5180 MHz ~ 5240 MHz&gt;</b>  802.11a : 17.38 MHz  802.11n HT20 : 18.08 MHz  802.11n HT40 : 37.16 MHz  802.11ac VHT80 : 75.28 MHz</p> <p><b>&lt;5260 MHz ~ 5320 MHz&gt;</b>  802.11a : 17.78 MHz  802.11n HT20 : 18.13 MHz  802.11n HT40 : 37.36 MHz  802.11ac VHT80 : 75.40 MHz</p> <p><b>&lt;5500 MHz ~ 5720 MHz &gt;</b>  802.11a : 17.93 MHz  802.11n HT20 : 18.33 MHz  802.11n HT40 : 37.46 MHz  802.11ac VHT80 : 75.52 MHz</p>
<b>Antenna Type / Gain</b>	<p><b>&lt;5180 MHz ~ 5240 MHz&gt;</b>  PIFA Antenna with gain -6.50 dBi</p> <p><b>&lt;5260 MHz ~ 5320 MHz&gt;</b>  PIFA Antenna with gain -5.90 dBi</p> <p><b>&lt;5500 MHz ~ 5720 MHz&gt;</b>  PIFA Antenna with gain -5.80 dBi</p>
<b>Type of Modulation</b>	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)

**Note:** For 802.11n HT20 / ac VHT20 and 802.11n HT40 / ac VHT40 mode, the whole testing have



assessed only 802.11n HT20/HT40 by referring to their maximum conducted power.

### 1.5 Modification of EUT

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

### 1.6 Testing Location

Sporton International Inc. (Shenzhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

<b>Test Firm</b>	Sporton International Inc. (Shenzhen)		
<b>Test Site Location</b>	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
<b>Test Site No.</b>	<b>Sporton Site No.</b>	<b>FCC Designation No.</b>	<b>FCC Test Firm Registration No.</b>
	CO01-SZ TH01-SZ	CN1256	421272

<b>Test Firm</b>	Sporton International Inc. (Shenzhen)		
<b>Test Site Location</b>	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City Guangdong Province China 518103 TEL: +86-755-33202398		
<b>Test Site No.</b>	<b>Sporton Site No.</b>	<b>FCC Designation No.</b>	<b>FCC Test Firm Registration No.</b>
	03CH01-SZ	CN1256	421272

### 1.7 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH01-SZ	AUDIX	E3	6.2009-8-24
2.	CO01-SZ	AUDIX	E3	6.120613b



### 1.8 Applicable Standards

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

- ♦ 47 CFR Part 15 Subpart E
- ♦ FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- ♦ ANSI C63.10-2013

**Remark:**

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

### 1.9 Specification of Accessory

Specification of Accessory				
AC Adapter 1(US)	Brand Name	Motorola (Chenyang)	Model Name	MC-201
AC Adapter 1(EU)	Brand Name	Motorola (Chenyang)	Model Name	MC-202
AC Adapter 1(AR)	Brand Name	Motorola (Chenyang)	Model Name	MC-206
AC Adapter 2(US)	Brand Name	Motorola (Acbel)	Model Name	MC-201
AC Adapter 2(EU)	Brand Name	Motorola (Acbel)	Model Name	MC-202
AC Adapter 2(AR)	Brand Name	Motorola (Acbel)	Model Name	MC-206
AC Adapter 2(CHILE)	Brand Name	Motorola (Acbel)	Model Name	MC-209
AC Adapter 3(IN)	Brand Name	Motorola (Chenyang)	Model Name	MC-204
AC Adapter 4(IN)	Brand Name	Motorola (Aohai)	Model Name	MC-204
AC Adapter 5(BR)	Brand Name	Motorola (Flex)	Model Name	MC-207
AC Adapter 6(BR)	Brand Name	Motorola (Salcomp)	Model Name	MC-207
AC Adapter 7(US)	Brand Name	Motorola (Chenyang)	Model Name	MC-101
AC Adapter 7(EU)	Brand Name	Motorola (Chenyang)	Model Name	MC-102
AC Adapter 7(UK)	Brand Name	Motorola (Chenyang)	Model Name	MC-103
AC Adapter 7(AU)	Brand Name	Motorola (Chenyang)	Model Name	MC-105
AC Adapter 8(US)	Brand Name	Motorola (Salcomp)	Model Name	MC-101
AC Adapter 8(EU)	Brand Name	Motorola (Salcomp)	Model Name	MC-102
AC Adapter 8(UK)	Brand Name	Motorola (Salcomp)	Model Name	MC-103
AC Adapter 8(AU)	Brand Name	Motorola (Salcomp)	Model Name	MC-105
AC Adapter 9(US)	Brand Name	Motorola (Aohai)	Model Name	MC-101
AC Adapter 9(EU)	Brand Name	Motorola (Aohai)	Model Name	MC-102
AC Adapter 9(UK)	Brand Name	Motorola (Aohai)	Model Name	MC-103
AC Adapter 10(IN)	Brand Name	Motorola (Chenyang)	Model Name	MC-104
AC Adapter 11(IN)	Brand Name	Motorola (Aohai)	Model Name	MC-104





<b>AC Adapter 12(AU)</b>	<b>Brand Name</b>	Motorola (Aohai)	<b>Model Name</b>	MC-105
<b>AC Adapter 13(EU)</b>	<b>Brand Name</b>	Motorola (Salom)	<b>Model Name</b>	SC-42
<b>AC Adapter 14(UK)</b>	<b>Brand Name</b>	Motorola (Chenyang)	<b>Model Name</b>	SC-43
<b>Earphone 1</b>	<b>Brand Name</b>	Motorola (lyand)	<b>Model Name</b>	LYM239-76C-003
<b>Earphone 2</b>	<b>Brand Name</b>	Motorola (LCHSE)	<b>Model Name</b>	MEND1432B875000
<b>Earphone 3</b>	<b>Brand Name</b>	Motorola (New Leader)	<b>Model Name</b>	MH202
<b>USB Cable 1</b>	<b>Brand Name</b>	Motorola(Yihuaxing)	<b>Model Name</b>	T365-011B
<b>USB Cable 2</b>	<b>Brand Name</b>	Motorola(SUNTOPS)	<b>Model Name</b>	336258
<b>USB Cable 3</b>	<b>Brand Name</b>	Motorola(SUNTOPS)	<b>Model Name</b>	336281
<b>USB Cable 4</b>	<b>Brand Name</b>	Motorola(I SHENG)	<b>Model Name</b>	SC18D33506
<b>USB Cable 5</b>	<b>Brand Name</b>	Motorola(Yihuaxing)	<b>Model Name</b>	T365-012B
<b>Battery 1</b>	<b>Brand Name</b>	Motorola(Sunwoda)	<b>Model Name</b>	NH50
<b>Battery 2</b>	<b>Brand Name</b>	Motorola(SCUD)	<b>Model Name</b>	NH50



## 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 (Y 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)
5180-5240 MHz 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)
5260-5320 MHz 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)
5500-5720 MHz 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

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
Straddle Channel	138 <sup>#</sup>	5690	144	5720
	142*	5710		

**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 : GSM 850 Idle + Bluetooth Link + WLAN Link (5G) + USB Cable 1 (Charging from Adapter6) + Earphone 1+Battery 1

Simultaneous transmission
802.11a CH140 5700MHz+LTE Band38 link

Ch. #		U-NII-1 : 5180-5240 MHz	U-NII-2A : 5260-5320 MHz	U-NII-2C : 5500-5720MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle		-	-	144

Ch. #		U-NII-1 : 5180-5240 MHz	U-NII-2A : 5260-5320 MHz	U-NII-2C : 5500-5720MHz
		802.11n HT20	802.11n HT20	802.11n HT20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle		-	-	144

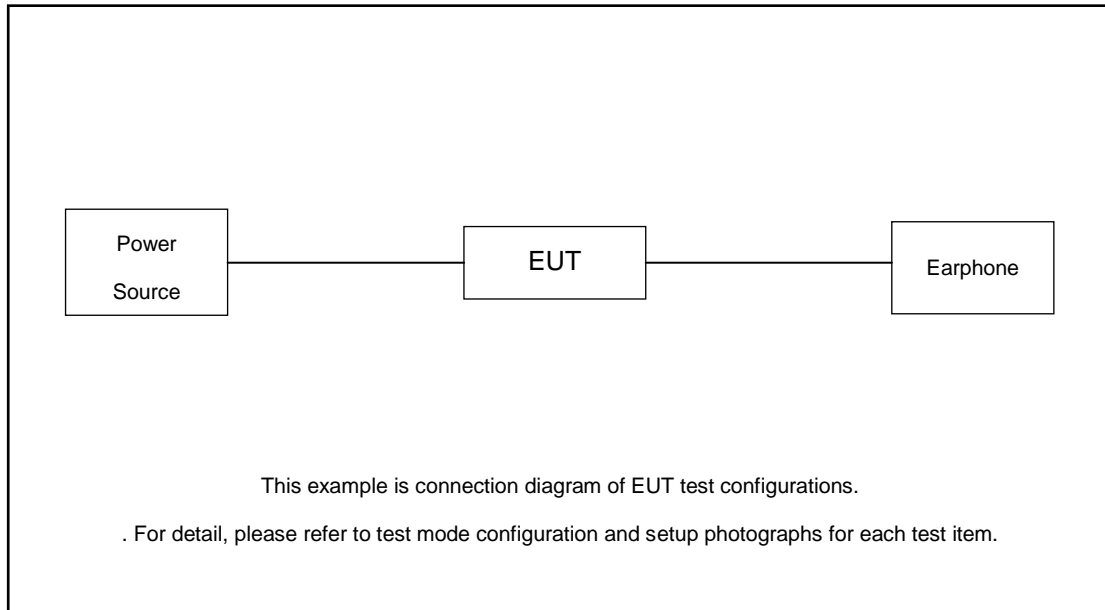


Ch. #		U-NII-1 : 5180-5240 MHz	U-NII-2A : 5260-5320 MHz	U-NII-2C : 5500-5720MHz
		802.11n HT40	802.11n HT40	802.11n HT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134
Straddle		-	-	142

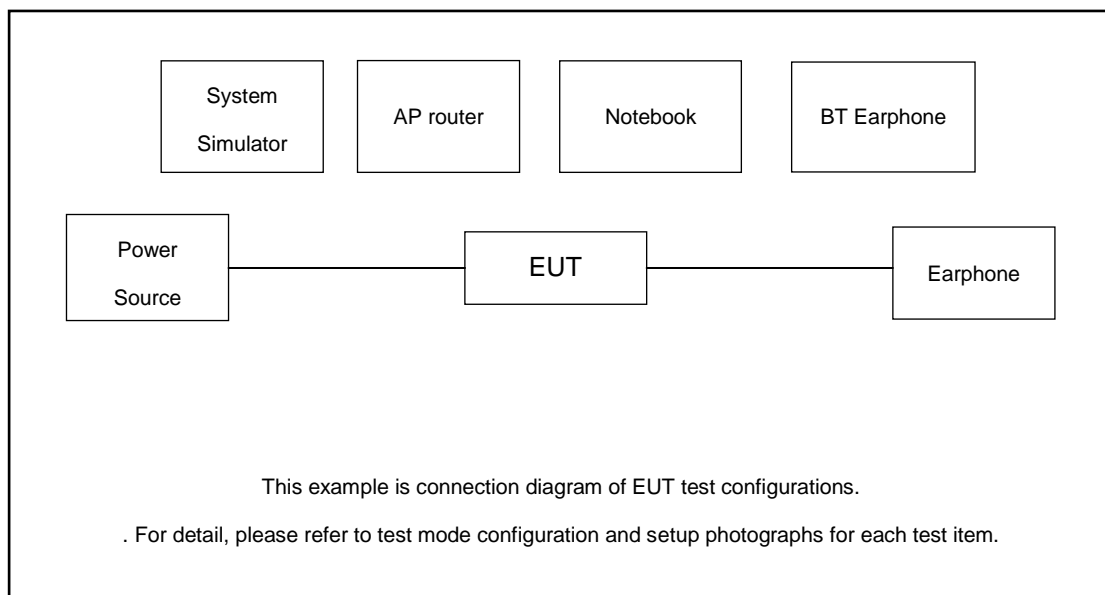
Ch. #		U-NII-1 : 5180-5240 MHz	U-NII-2A : 5260-5320 MHz	U-NII-2C : 5500-5720MHz
		802.11ac VHT80	802.11ac VHT80	802.11ac VHT80
L	Low	-	-	106
M	Middle	42	58	-
H	High	-	-	122
Straddle		-	-	138

## 2.3 Connection Diagram of Test System

< Radiated Emission >



< AC Conducted Emission >





## 2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded,1.8m
2.	WLAN AP	D-Link	DIR-820L	KA2IR820LA1	N/A	Unshielded,1.8m
3.	Bluetooth Earphone	Sony	MBH22	N/A	N/A	N/A
4.	Notebook	Lenovo	E540	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m

## 2.5 EUT Operation Test Setup

For WLAN RF test items, an engineering test program was provided and enabled to make EUT continuous transmit/receive.

For AC power line conducted emissions, the EUT was set to connect with the WLAN AP under large package sizes transmission.

## 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.

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

Following shows an offset computation example with cable loss 2.80 dB and 10dB attenuator.

$$\begin{aligned} \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\ &= 2.80 + 10 = 12.80 \text{ (dB)} \end{aligned}$$

### 3 Test Result

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

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

This section is for reporting purpose only.

There is no restriction limits for bandwidth.

For Straddle Channel, According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, If the power and PSD of the devices are uniform and comply with the lower limits specified for the U-NII-2 bands, a single measurement over the entire emission bandwidth can be performed to show compliance.

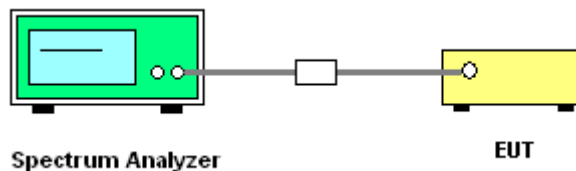
##### 3.1.2 Measuring Instruments

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

##### 3.1.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
7. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1MHz and set the Video bandwidth (VBW)  $\geq 3 * RBW$ .
8. Measure and record the results in the test report.

##### 3.1.4 Test Setup



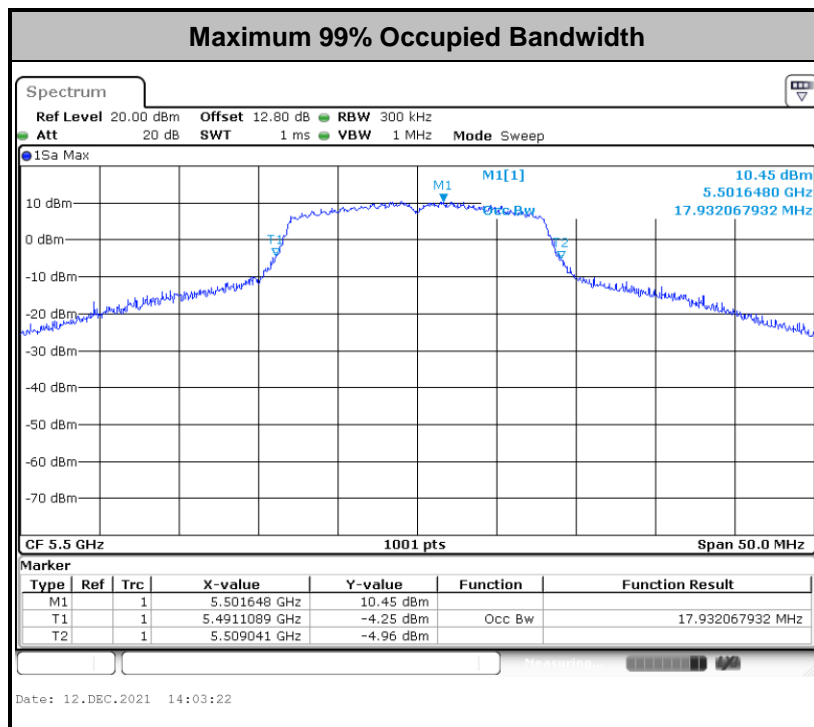
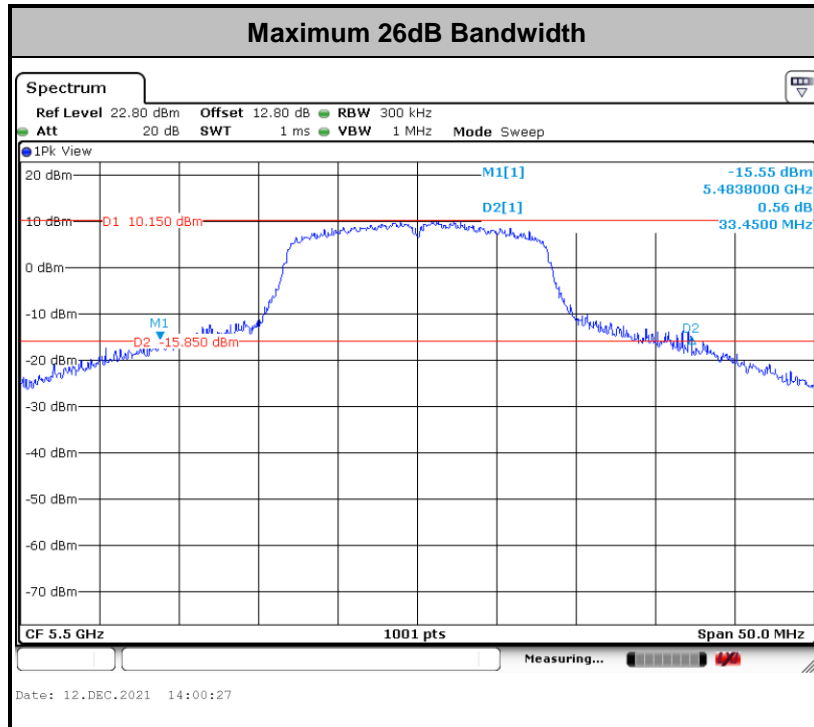




### 3.1.5 Test Result of 26dB & 99% Occupied Bandwidth

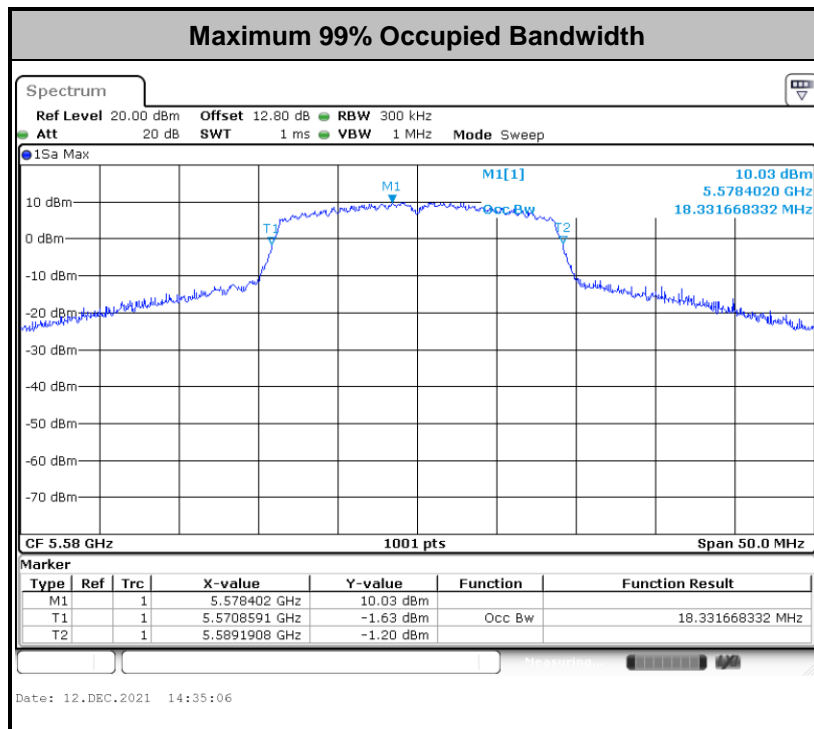
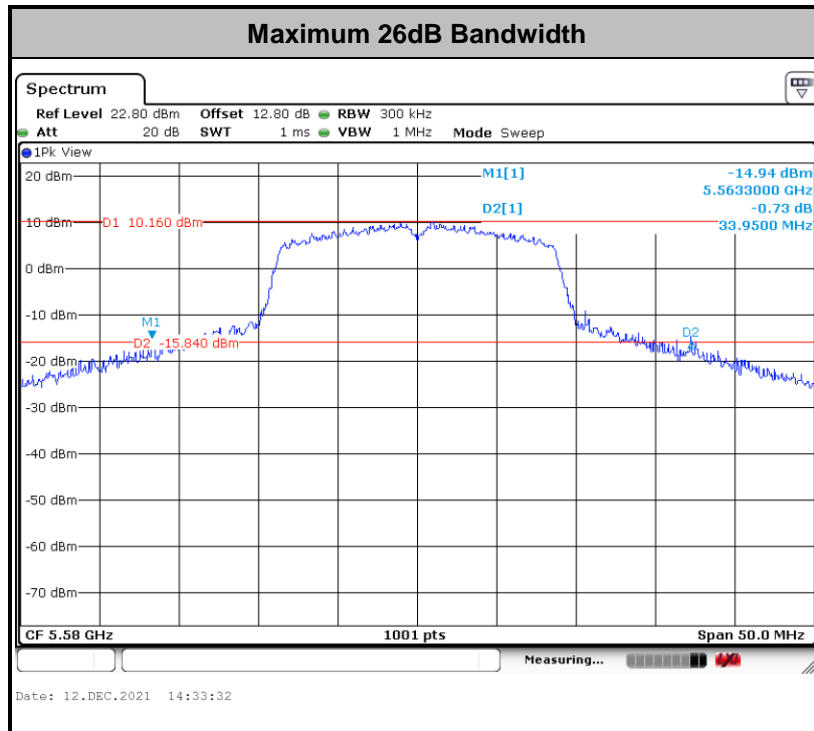
Please refer to Appendix A.

11a



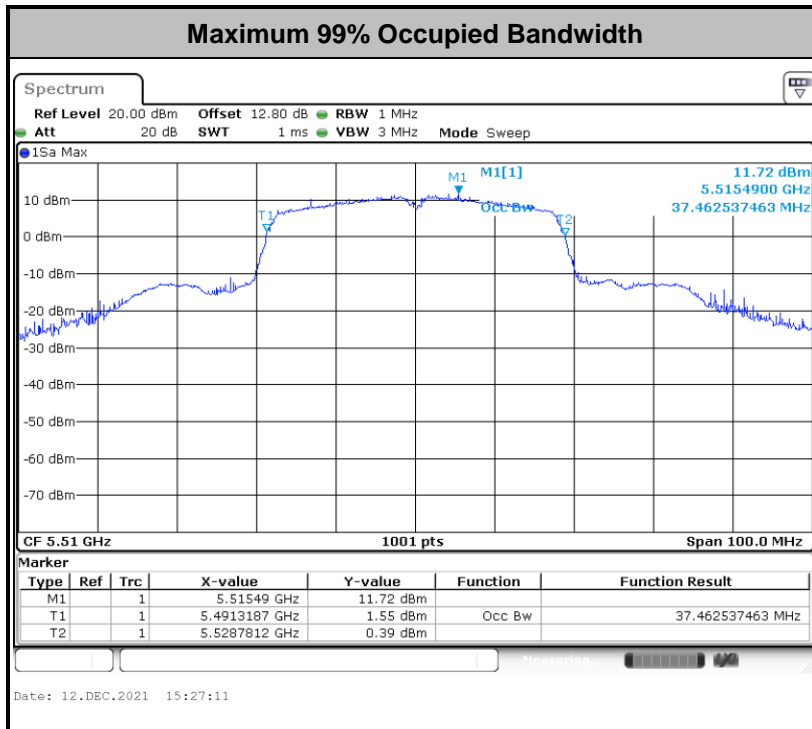
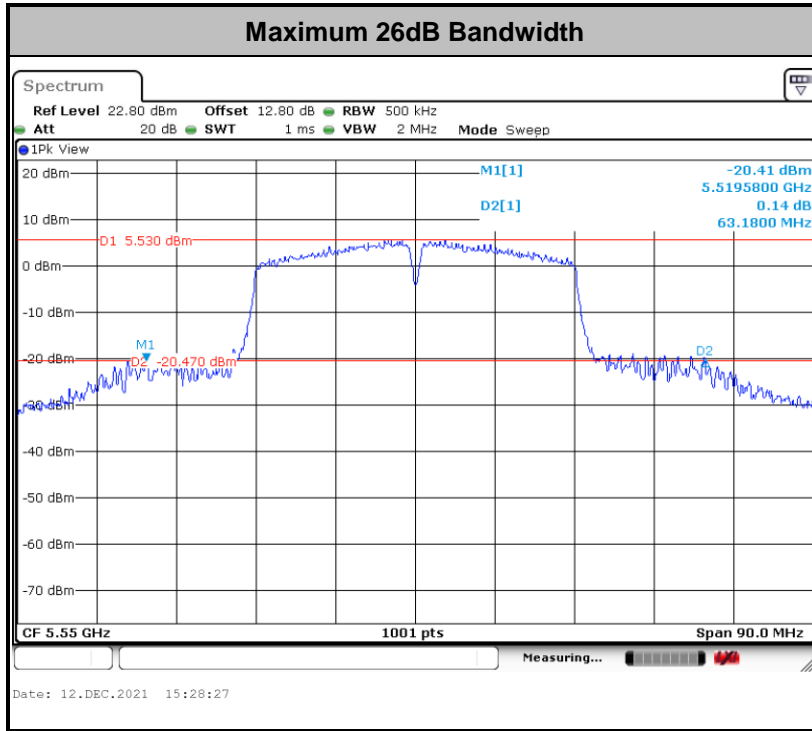


11n HT20



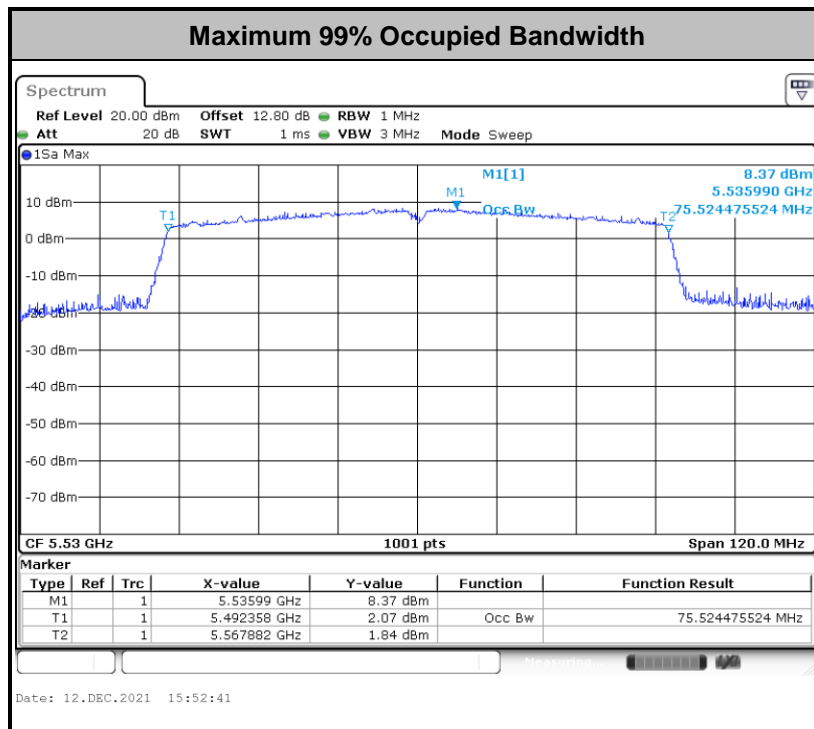
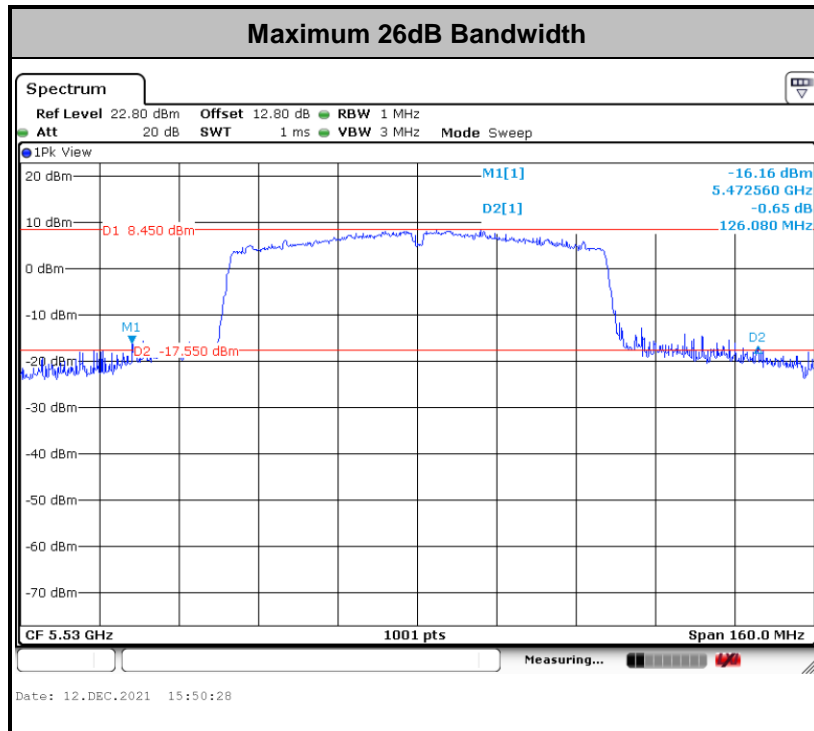


11n HT40





11ac VHT80



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**

**<FCC 14-30 CFR 15.407>**

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

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.

For Straddle Channel, According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, If the power and PSD of the devices are uniform and comply with the lower limits specified for the U-NII-2 bands, a single measurement over the entire emission bandwidth can be performed to show compliance.

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

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

### **3.2.2 Measuring Instruments**

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

### 3.2.3 Test Procedures

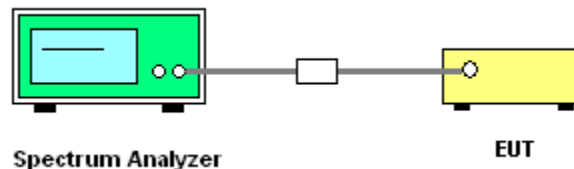
The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

Method PM (Measurement using an RF average power meter):

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit continuously with a consistent duty cycle at its maximum power control level.
3. Measure the average power of the transmitter, and the average power is corrected with duty factor,  $10 \log(1/x)$ , where  $x$  is the duty cycle.
4. For MIMO mode, the measure-and-sum technique should be used for measuring the in-band transmit power of a device.

For Straddle Channel, According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, If the power and PSD of the devices are uniform and comply with the lower limits specified for the U-NII-2 bands, a single measurement over the entire emission bandwidth can be performed to show compliance.

### 3.2.4 Test Setup



### 3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.



### 3.3 Power Spectral Density Measurement

#### 3.3.1 Limit of Power Spectral Density

<FCC 14-30 CFR 15.407>

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

For the 5.25–5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

For Straddle Channel, According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, If the power and PSD of the devices are uniform and comply with the lower limits specified for the U-NII-2 bands, a single measurement over the entire emission bandwidth can be performed to show compliance.

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

#### 3.3.2 Measuring Instruments

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

### 3.3.3 Test Procedures

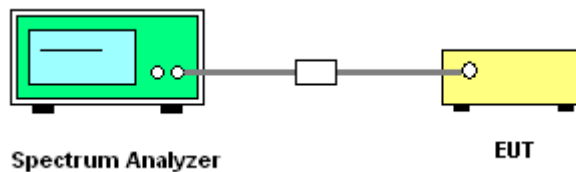
The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.  
Section F) Maximum power spectral density.

#### # Method SA-2 #

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

- Measure the duty cycle.
  - Set span to encompass the entire emission bandwidth (EBW) of the signal.
  - Set RBW = 1 MHz.
  - Set VBW  $\geq$  3 MHz.
  - Number of points in sweep  $\geq$  2 Span / RBW.
  - Sweep time = auto.
  - Detector = RMS
  - Trace average at least 100 traces in power averaging mode.
  - Add  $10 \log(1/x)$ , where  $x$  is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add  $10 \log(1/0.25) = 6$  dB if the duty cycle is 25 percent.
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.

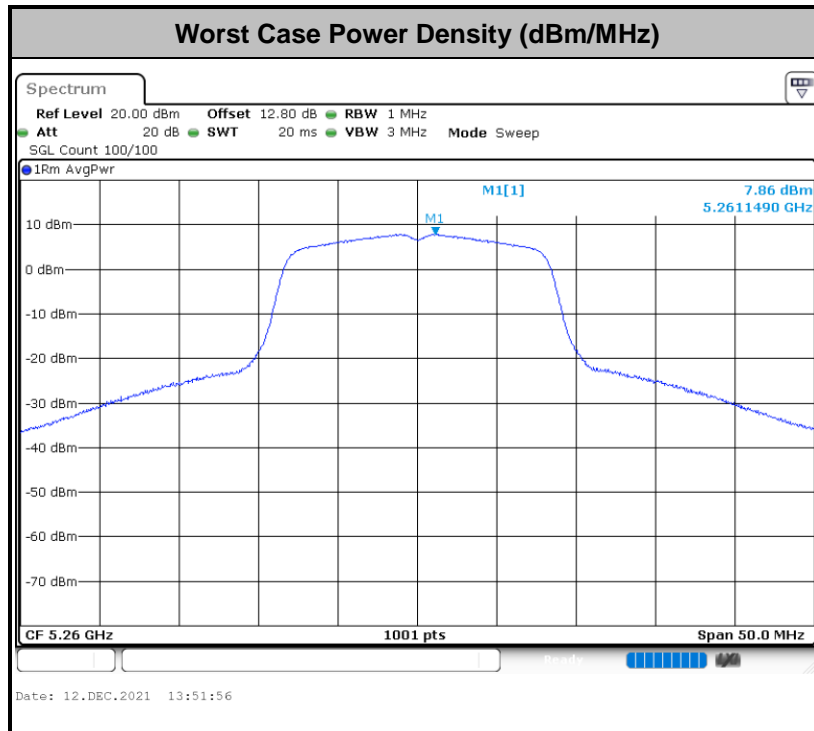
### 3.3.4 Test Setup



### 3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.





**Note:** Average Power Density (dB) = Measured value+ Duty Factor



### 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 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 5470-5725 MHz band: all emissions outside of the 5470-5725 MHz 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



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

**Note:** The following formula is used to convert the EIRP to field strength.

$$EIRP = E_{Meas} + 20\log (d_{Meas}) - 104.7$$

where

EIRP is the equivalent isotropically radiated power, in dBm

$E_{Meas}$  is the field strength of the emission at the measurement distance, in dBμV/m

$d_{Meas}$  is the measurement distance, in m

(3) ANSI C63.10-2013 clause 12.7.3 note 97

As specified by regulatory requirements, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit. However, an out-of-band emission that complies with both the average and peak general regulatory limits is not required to satisfy the peak emission limit.

### 3.4.2 Measuring Instruments

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

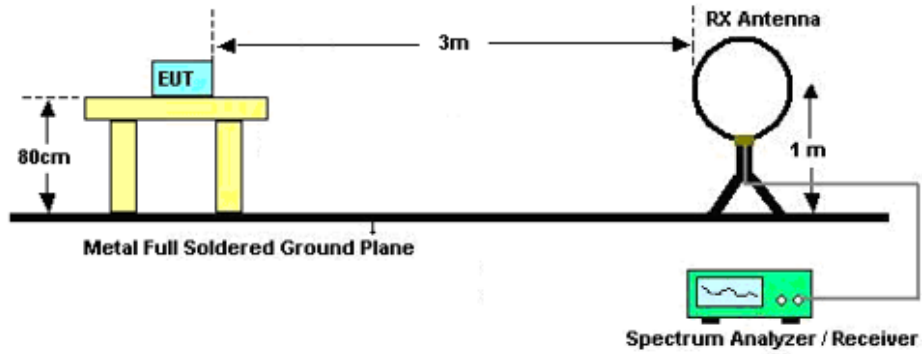


### 3.4.3 Test Procedures

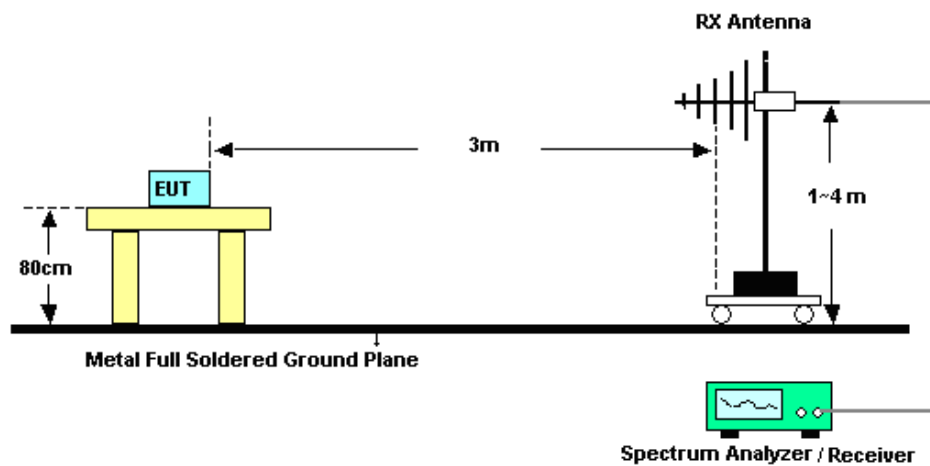
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section G) Unwanted emissions measurement.
  - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
    - RBW = 120 kHz
    - VBW = 300 kHz
    - Detector = Peak
    - Trace mode = max hold
  - (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz
    - RBW = 1 MHz
    - VBW  $\geq$  3 MHz
    - Detector = Peak
    - Sweep time = auto
    - Trace mode = max hold
  - (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz
    - RBW = 1 MHz
    - VBW = 10 Hz, when duty cycle is no less than 98 percent.
    - VBW  $\geq$  1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than peak limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

### 3.4.4 Test Setup

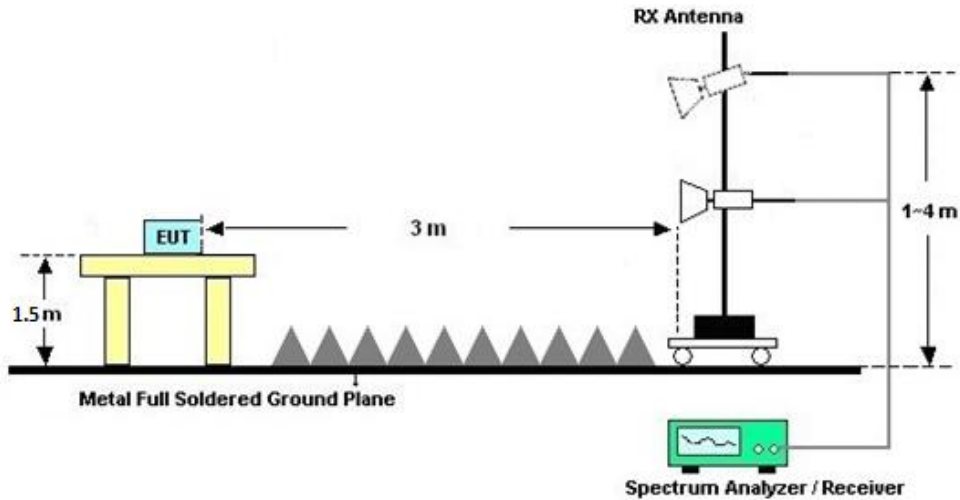
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



### 3.4.5 Test Results of Radiated 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 semi-Anechoic chamber, and the result came out very similar.

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

Please refer to Appendix C.

### 3.4.7 Duty Cycle

Please refer to Appendix D.

### 3.4.8 Test Result of Radiated Spurious Emissions (30MHz ~ 10th Harmonic or 40GHz, whichever is lower)

Please refer to Appendix C.



### 3.5 AC Conducted Emission Measurement

#### 3.5.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of emission (MHz)	Conducted limit (dBµV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

\*Decreases with the logarithm of the frequency.

#### 3.5.2 Measuring Instruments

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

#### 3.5.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

### 3.5.4 Test Setup



### 3.5.5 Test Result of AC Conducted Emission

Please refer to Appendix B.





## **3.6 Antenna Requirements**

### **3.6.1 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.

### **3.6.2 Antenna Anti-Replacement Construction**

An embedded-in antenna design is used.

### **3.6.3 Antenna Gain**

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



## 4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 08, 2021	Dec. 12, 2021	Apr. 07, 2022	Conducted (TH01-SZ)
Pulse Power Sensor	Anritsu	MA2411B	1207253	30MHz~40GHz	Dec. 25, 2020	Dec. 12, 2021	Dec. 24, 2021	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	50MHz Bandwidth	Dec. 25, 2020	Dec. 12, 2021	Dec. 24, 2021	Conducted (TH01-SZ)
EMI Test Receiver&SA	Agilent	N9038A	MY52260185	20Hz~26.5GHz	Dec. 03, 2021	Dec. 25, 2021~Jan. 12, 2022	Dec. 02, 2022	Radiation (03CH01-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 21, 2021	Dec. 25, 2021~Jan. 12, 2022	Jul. 20, 2022	Radiation (03CH01-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jul. 22, 2021	Dec. 25, 2021~Jan. 12, 2022	Jul. 21, 2022	Radiation (03CH01-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz~2GHz	Jul. 15, 2021	Dec. 25, 2021~Jan. 12, 2022	Jul. 14, 2022	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 25, 2021	Dec. 25, 2021~Jan. 12, 2022	Jul. 24, 2022	Radiation (03CH01-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz~40GHz	Apr. 11, 2021	Dec. 25, 2021~Jan. 12, 2022	Apr. 10, 2022	Radiation (03CH01-SZ)
LF Amplifier	Burgeon	BPA-530	102209	0.01~3000Mhz	Apr. 07, 2021	Dec. 25, 2021~Jan. 12, 2022	Apr. 06, 2022	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1943528	1GHz~18GHz	Oct. 16, 2021	Dec. 25, 2021~Jan. 12, 2022	Oct. 15, 2022	Radiation (03CH01-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270105	0.5GHz~26.5GHz	Oct. 16, 2021	Dec. 25, 2021~Jan. 12, 2022	Oct. 15, 2022	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 21, 2021	Dec. 25, 2021~Jan. 12, 2022	Jul. 20, 2022	Radiation (03CH01-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	NCR	Dec. 25, 2021~Jan. 12, 2022	NCR	Radiation (03CH01-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Dec. 25, 2021~Jan. 12, 2022	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Dec. 25, 2021~Jan. 12, 2022	NCR	Radiation (03CH01-SZ)
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Mar. 08, 2021	Dec. 21, 2021	Mar. 07, 2022	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2 LISN	00103912	9kHz~30MHz	Dec. 25, 2020	Dec. 21, 2021	Dec. 24, 2021	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Oct. 15, 2021	Dec. 21, 2021	Oct. 14, 2022	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Jul. 14, 2021	Dec. 21, 2021	Jul. 13, 2022	Conduction (CO01-SZ)

NCR: No Calibration Required



## 5 Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.10-2013. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.2 dB
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### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.2 dB
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### Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.0 dB
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### Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.3 dB
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----- THE END -----



## **Appendix A. Conducted Test Results**

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

Test Engineer:	Ma Jie	Temperature:	21~25	°C
Test Date:	2021/12/12	Relative Humidity:	51~54	%

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

5180-5240 MHz								
Mod.	Data Rate	N <sub>TX</sub>	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)		
11a	6Mbps	1	36	5180	17.18	26.55		
11a	6Mbps	1	44	5220	17.28	30.85		
11a	6Mbps	1	48	5240	17.38	30.10		
HT20	MCS0	1	36	5180	18.03	27.40		
HT20	MCS0	1	44	5220	18.08	27.25		
HT20	MCS0	1	48	5240	18.03	26.20		
HT40	MCS0	1	38	5190	37.06	57.24		
HT40	MCS0	1	46	5230	37.16	40.77		
VHT80	MCS0	1	42	5210	75.28	90.24		

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

5180-5240 MHz										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)		Pass/Fail
11a	6Mbps	1	36	5180	0.13	14.54	24.00	-6.50		Pass
11a	6Mbps	1	44	5220	0.13	14.63	24.00	-6.50		Pass
11a	6Mbps	1	48	5240	0.13	14.65	24.00	-6.50		Pass
HT20	MCS0	1	36	5180	0.14	14.24	24.00	-6.50		Pass
HT20	MCS0	1	44	5220	0.14	14.30	24.00	-6.50		Pass
HT20	MCS0	1	48	5240	0.14	14.40	24.00	-6.50		Pass
HT40	MCS0	1	38	5190	0.30	12.54	24.00	-6.50		Pass
HT40	MCS0	1	46	5230	0.30	14.32	24.00	-6.50		Pass
VHT20	MCS0	1	36	5180	0.12	14.18	24.00	-6.50		Pass
VHT20	MCS0	1	44	5220	0.12	14.23	24.00	-6.50		Pass
VHT20	MCS0	1	48	5240	0.12	14.34	24.00	-6.50		Pass
VHT40	MCS0	1	38	5190	0.28	12.49	24.00	-6.50		Pass
VHT40	MCS0	1	46	5230	0.28	14.25	24.00	-6.50		Pass
VHT80	MCS0	1	42	5210	0.57	12.20	24.00	-6.50		Pass

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

5180-5240 MHz										
Mod.	Data Rate	N <sub>TX</sub>	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)	-	Pass/Fail
11a	6Mbps	1	36	5180	0.13	7.22	11.00	-6.50		Pass
11a	6Mbps	1	44	5220	0.13	7.46	11.00	-6.50		Pass
11a	6Mbps	1	48	5240	0.13	7.54	11.00	-6.50		Pass
HT20	MCS0	1	36	5180	0.14	5.83	11.00	-6.50		Pass
HT20	MCS0	1	44	5220	0.14	6.03	11.00	-6.50		Pass
HT20	MCS0	1	48	5240	0.14	6.07	11.00	-6.50		Pass
HT40	MCS0	1	38	5190	0.30	2.45	11.00	-6.50		Pass
HT40	MCS0	1	46	5230	0.30	2.16	11.00	-6.50		Pass
VHT80	MCS0	1	42	5210	0.57	-1.03	11.00	-6.50		Pass



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

5260-5320 MHz								
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	FCC 26dB Bandwidth Power Limit (dBm)	Note
11a	6M bps	1	52	5260	17.08	28.65	23.98	
11a	6M bps	1	60	5300	17.78	31.85	23.98	
11a	6M bps	1	64	5320	17.48	31.30	23.98	
HT20	MCS 0	1	52	5260	18.08	27.75	23.98	
HT20	MCS 0	1	60	5300	18.13	27.00	23.98	
HT20	MCS 0	1	64	5320	18.13	32.75	23.98	
HT40	MCS 0	1	54	5270	37.36	60.21	23.98	
HT40	MCS 0	1	62	5310	37.26	60.21	23.98	
VHT80	MCS 0	1	58	5290	75.40	100.00	23.98	

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

5260-5320 MHz										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6M bps	1	52	5260	0.13	17.38	23.98	-5.90	26.99	Pass
11a	6M bps	1	60	5300	0.13	17.36	23.98	-5.90	26.99	Pass
11a	6M bps	1	64	5320	0.13	16.41	23.98	-5.90	26.99	Pass
HT20	MCS 0	1	52	5260	0.14	16.98	23.98	-5.90	26.99	Pass
HT20	MCS 0	1	60	5300	0.14	16.99	23.98	-5.90	26.99	Pass
HT20	MCS 0	1	64	5320	0.14	15.97	23.98	-5.90	26.99	Pass
HT40	MCS 0	1	54	5270	0.30	15.99	23.98	-5.90	26.99	Pass
HT40	MCS 0	1	62	5310	0.30	13.21	23.98	-5.90	26.99	Pass
VHT20	MCS 0	1	52	5260	0.12	15.98	23.98	-5.90	26.99	Pass
VHT20	MCS 0	1	60	5300	0.12	15.92	23.98	-5.90	26.99	Pass
VHT20	MCS 0	1	64	5320	0.12	15.93	23.98	-5.90	26.99	Pass
VHT40	MCS 0	1	54	5270	0.28	15.87	23.98	-5.90	26.99	Pass
VHT40	MCS 0	1	62	5310	0.28	13.16	23.98	-5.90	26.99	Pass
VHT80	MCS 0	1	58	5290	0.57	11.69	23.98	-5.90	26.99	Pass

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

5260-5320 MHz										
Mod.	Data Rate	N <sub>TX</sub>	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)		Pass/Fail
11a	6M bps	1	52	5260	0.13	7.99	11.00	-5.90		Pass
11a	6M bps	1	60	5300	0.13	7.84	11.00	-5.90		Pass
11a	6M bps	1	64	5320	0.13	7.88	11.00	-5.90		Pass
HT20	MCS 0	1	52	5260	0.14	7.39	11.00	-5.90		Pass
HT20	MCS 0	1	60	5300	0.14	7.19	11.00	-5.90		Pass
HT20	MCS 0	1	64	5320	0.14	7.39	11.00	-5.90		Pass
HT40	MCS 0	1	54	5270	0.30	3.10	11.00	-5.90		Pass
HT40	MCS 0	1	62	5310	0.30	3.11	11.00	-5.90		Pass
VHT80	MCS 0	1	58	5290	0.57	0.18	11.00	-5.90		Pass

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

5500-5720 MHz								
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	FCC 26dB Bandwidth Power Limit (dBm)	Note
11a	6M bps	1	100	5500	17.93	33.45	23.98	
11a	6M bps	1	116	5580	17.88	32.55	23.98	
11a	6M bps	1	140	5700	17.58	32.20	23.98	
11a	6Mbps	1	144	5720	17.78	32.00	23.98	
HT20	MCS 0	1	100	5500	18.23	33.25	23.98	
HT20	MCS 0	1	116	5580	18.33	33.95	23.98	
HT20	MCS 0	1	140	5700	18.23	28.65	23.98	
HT20	MCS0	1	144	5720	18.18	29.50	23.98	
HT40	MCS 0	1	102	5510	37.46	60.21	23.98	
HT40	MCS 0	1	110	5550	37.46	63.18	23.98	
HT40	MCS 0	1	134	5670	37.26	60.21	23.98	
HT40	MCS0	1	142	5710	37.36	58.77	23.98	
VHT80	MCS 0	1	106	5530	75.52	126.08	23.98	
VHT80	MCS 0	1	122	5610	75.40	120.00	23.98	
VHT80	MCS0	1	138	5690	75.52	113.92	23.98	

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

5500-5720 MHz										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6M bps	1	100	5500	0.13	16.98	23.98	-5.80	26.99	Pass
11a	6M bps	1	116	5580	0.13	16.97	23.98	-5.80	26.99	Pass
11a	6M bps	1	140	5700	0.13	16.26	23.98	-5.80	26.99	Pass
11a	6M bps	1	144	5720	0.13	16.96	23.98	-5.80	26.99	Pass
HT20	MCS 0	1	100	5500	0.14	14.94	23.98	-5.80	26.99	Pass
HT20	MCS 0	1	116	5580	0.14	16.29	23.98	-5.80	26.99	Pass
HT20	MCS 0	1	136	5680	0.14	15.30	23.98	-5.80	26.99	Pass
HT20	MCS 0	1	140	5700	0.14	12.43	23.98	-5.80	26.99	Pass
HT20	MCS 0	1	144	5720	0.14	16.38	23.98	-5.80	26.99	Pass
HT40	MCS 0	1	102	5510	0.30	12.58	23.98	-5.80	26.99	Pass
HT40	MCS 0	1	110	5550	0.30	15.46	23.98	-5.80	26.99	Pass
HT40	MCS 0	1	134	5670	0.30	15.41	23.98	-5.80	26.99	Pass
HT40	MCS 0	1	142	5710	0.30	15.42	23.98	-5.80	26.99	Pass
VHT20	MCS 0	1	100	5500	0.12	14.87	23.98	-5.80	26.99	Pass
VHT20	MCS 0	1	116	5580	0.12	15.35	23.98	-5.80	26.99	Pass
VHT20	MCS 0	1	140	5700	0.12	12.40	23.98	-5.80	26.99	Pass
VHT20	MCS 0	1	144	5720	0.12	15.38	23.98	-5.80	26.99	Pass
VHT40	MCS 0	1	102	5510	0.28	12.54	23.98	-5.80	26.99	Pass
VHT40	MCS 0	1	110	5550	0.28	15.39	23.98	-5.80	26.99	Pass
VHT40	MCS 0	1	134	5670	0.28	15.35	23.98	-5.80	26.99	Pass
VHT40	MCS 0	1	142	5710	0.28	15.36	23.98	-5.80	26.99	Pass
VHT80	MCS 0	1	106	5530	0.57	13.52	23.98	-5.80	26.99	Pass
VHT80	MCS 0	1	122	5610	0.57	15.42	23.98	-5.80	26.99	Pass
VHT80	MCS 0	1	138	5690	0.57	15.40	23.98	-5.80	26.99	Pass

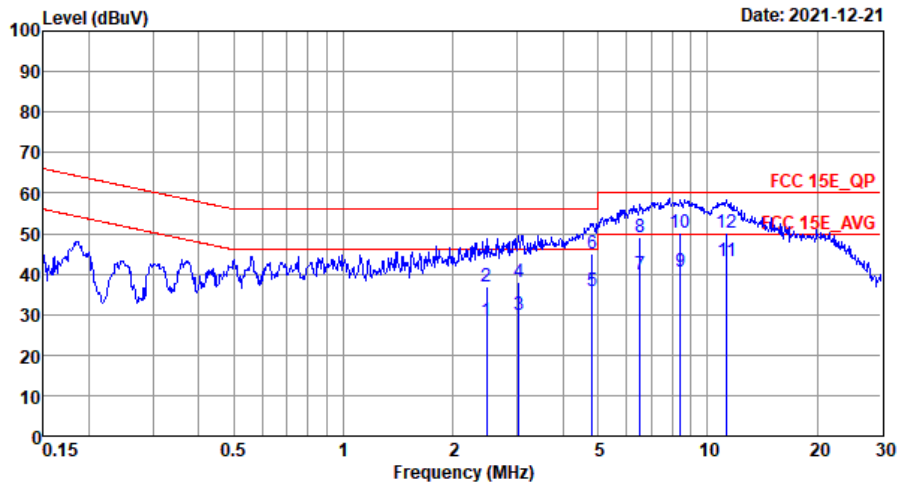
**TEST RESULTS DATA**  
**Power Spectral Density**

5500-5720 MHz										
Mod.	Data Rate	N <sub>TX</sub>	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)		Pass/Fail
11a	6M bps	1	100	5500	0.13	7.45	11.00	-5.80		Pass
11a	6M bps	1	116	5580	0.13	7.53	11.00	-5.80		Pass
11a	6M bps	1	140	5700	0.13	7.77	11.00	-5.80		Pass
11a	6Mbps	1	144	5720	0.13	7.67	11.00	-5.80		Pass
HT20	MCS 0	1	100	5500	0.14	6.76	11.00	-5.80		Pass
HT20	MCS 0	1	116	5580	0.14	7.01	11.00	-5.80		Pass
HT20	MCS 0	1	140	5700	0.14	7.22	11.00	-5.80		Pass
HT20	MCS0	1	144	5720	0.14	7.06	11.00	-5.80		Pass
HT40	MCS 0	1	102	5510	0.30	2.67	11.00	-5.80		Pass
HT40	MCS 0	1	110	5550	0.30	2.86	11.00	-5.80		Pass
HT40	MCS 0	1	134	5670	0.30	3.12	11.00	-5.80		Pass
HT40	MCS0	1	142	5710	0.30	3.20	11.00	-5.80		Pass
VHT80	MCS 0	1	106	5530	0.57	-0.27	11.00	-5.80		Pass
VHT80	MCS 0	1	122	5610	0.57	-0.05	11.00	-5.80		Pass
VHT80	MCS0	1	138	5690	0.57	0.04	11.00	-5.80		Pass



## Appendix B. AC Conducted Emission Test Results

Test Engineer :	Xie YuQiang	Temperature :	22~25°C
		Relative Humidity :	50~55%
Test Voltage :	120Vac / 60Hz	Phase :	Line

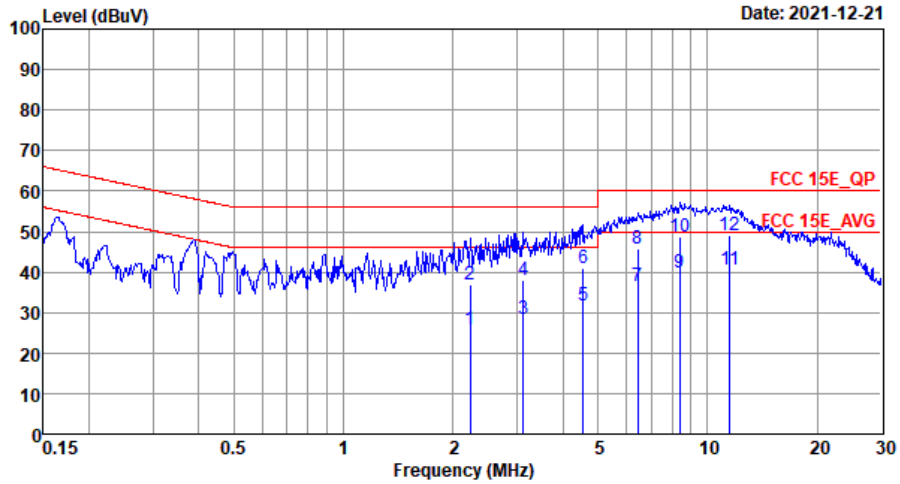


Site : CO01-SZ  
 Condition: FCC 15E QP LISN 20210901 L LINE

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	2.47	28.59	-17.41	46.00	8.30	10.05	10.24	Average
2	2.47	36.79	-19.21	56.00	16.50	10.05	10.24	QP
3	3.03	29.74	-16.26	46.00	9.40	10.10	10.24	Average
4	3.03	37.94	-18.06	56.00	17.60	10.10	10.24	QP
5	4.82	35.93	-10.07	46.00	15.70	9.99	10.24	Average
6	4.82	44.93	-11.07	56.00	24.70	9.99	10.24	QP
7	6.52	39.71	-10.29	50.00	19.50	9.95	10.26	Average
8	6.52	49.01	-10.99	60.00	28.80	9.95	10.26	QP
9	8.41	40.46	-9.54	50.00	20.30	9.88	10.28	Average
10	8.41	50.06	-9.94	60.00	29.90	9.88	10.28	QP
11 *	11.32	43.31	-6.69	50.00	23.20	9.80	10.31	Average
12	11.32	50.11	-9.89	60.00	30.00	9.80	10.31	QP



Test Engineer :	Xie YuQiang	Temperature :	22~25°C
		Relative Humidity :	50~55%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral



Site : CO01-SZ  
 Condition: FCC 15E\_QP LISN\_20210901\_N NEUTRAL

	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	2.22	26.01	-19.99	46.00	5.60	10.17	10.24	Average
2	2.22	36.81	-19.19	56.00	16.40	10.17	10.24	QP
3	3.12	28.48	-17.52	46.00	8.10	10.14	10.24	Average
4	3.12	38.08	-17.92	56.00	17.70	10.14	10.24	QP
5	4.55	31.68	-14.32	46.00	11.30	10.14	10.24	Average
6	4.55	40.98	-15.02	56.00	20.60	10.14	10.24	QP
7	6.42	36.61	-13.39	50.00	16.30	10.05	10.26	Average
8	6.42	45.91	-14.09	60.00	25.60	10.05	10.26	QP
9	8.37	39.79	-10.21	50.00	19.50	10.01	10.28	Average
10	8.37	48.59	-11.41	60.00	28.30	10.01	10.28	QP
11 *	11.50	40.66	-9.34	50.00	20.40	9.95	10.31	Average
12	11.50	48.96	-11.04	60.00	28.70	9.95	10.31	QP

Note:

- Level(dBμV) = Read Level(dBμV) + LISN Factor(dB) + Cable Loss(dB)
- Over Limit(dB) = Level(dBμV) – Limit Line(dBμV)





# Appendix C. Radiated Spurious Emission

## Sample 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		5148.2	55.81	-18.19	74	42.19	34	12.15	32.53	212	146	P	H
		5149.6	44.37	-9.63	54	30.75	34	12.15	32.53	212	146	A	H
		5180	101.84	-	-	88.09	34.13	12.16	32.54	212	146	P	H
		5180	96.36	-	-	82.61	34.13	12.16	32.54	212	146	A	H
		5149.76	57.86	-16.14	74	44.24	34	12.15	32.53	329	110	P	V
		5149.76	43.99	-10.01	54	30.37	34	12.15	32.53	329	110	A	V
		5180	100.39	-	-	86.64	34.13	12.16	32.54	329	110	P	V
		5180	94.11	-	-	80.36	34.13	12.16	32.54	329	110	A	V
802.11a CH 44 5220MHz		5053.3	52.55	-21.45	74	39.14	33.8	12.12	32.51	202	195	P	H
		5144.82	42.94	-11.06	54	29.32	34	12.15	32.53	202	195	A	H
		5220	103.22	-	-	89.37	34.23	12.17	32.55	202	195	P	H
		5220	97.16	-	-	83.31	34.23	12.17	32.55	202	195	A	H
		5353.44	52.3	-21.7	74	38.26	34.4	12.21	32.57	202	195	P	H
		5353.92	42.26	-11.74	54	28.22	34.4	12.21	32.57	202	195	A	H
		5104.52	52.29	-21.71	74	38.77	33.9	12.14	32.52	301	95	P	V
		5144.3	42.68	-11.32	54	29.06	34	12.15	32.53	301	95	A	V
		5220	101.24	-	-	87.39	34.23	12.17	32.55	301	95	P	V
		5220	95.56	-	-	81.71	34.23	12.17	32.55	301	95	A	V
		5352.72	52.12	-21.88	74	38.08	34.4	12.21	32.57	301	95	P	V
	5395.2	42.11	-11.89	54	28.07	34.4	12.22	32.58	301	95	A	V	



802.11a CH 48 5240MHz		5121.16	51.99	-22.01	74	38.45	33.93	12.14	32.53	213	195	P	H
		5145.6	42.5	-11.5	54	28.88	34	12.15	32.53	213	195	A	H
		5240	102.7	-	-	88.8	34.27	12.18	32.55	213	195	P	H
		5240	97.1	-	-	83.2	34.27	12.18	32.55	213	195	A	H
		5354.64	52.48	-21.52	74	38.44	34.4	12.21	32.57	213	195	P	H
		5350.56	42.53	-11.47	54	28.49	34.4	12.21	32.57	213	195	A	H
		5073.84	52.18	-21.82	74	38.7	33.87	12.13	32.52	314	107	P	V
		5148.2	42.31	-11.69	54	28.69	34	12.15	32.53	314	107	A	V
		5240	100.79	-	-	86.86	34.3	12.18	32.55	314	107	P	V
		5240	95.53	-	-	81.6	34.3	12.18	32.55	314	107	A	V
		5350.8	51.4	-22.6	74	37.36	34.4	12.21	32.57	314	107	P	V
		5351.04	42.14	-11.86	54	28.1	34.4	12.21	32.57	314	107	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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	51.02	-17.28	68.3	49.37	37.39	15.31	51.05	-	-	P	H
		15540	50.53	-23.47	74	45.35	40.08	17.76	52.66	-	-	P	H
		10360	51.33	-16.97	68.3	49.68	37.39	15.31	51.05	-	-	P	V
		15540	50.22	-23.78	74	45.04	40.08	17.76	52.66	-	-	P	V
802.11a CH 44 5220MHz		10440	50.67	-17.63	68.3	48.97	37.45	15.32	51.07	-	-	P	H
		15660	50.91	-23.09	74	45.77	40.19	17.83	52.88	-	-	P	H
		10440	50.53	-17.77	68.3	48.83	37.45	15.32	51.07	-	-	P	V
		15660	49.84	-24.16	74	44.7	40.19	17.83	52.88	-	-	P	V
802.11a CH 48 5240MHz		10480	49.44	-18.86	68.3	47.72	37.49	15.32	51.09	-	-	P	H
		15720	49.98	-24.02	74	44.86	40.25	17.87	53	-	-	P	H
		10480	49.67	-18.63	68.3	47.95	37.49	15.32	51.09	-	-	P	V
		15720	50.36	-23.64	74	45.24	40.25	17.87	53	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**5150~5250MHz**  
**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 36 5180MHz		5145.6	61.22	-12.78	74	47.6	34	12.15	32.53	221	201	P	H
		5149.76	49.07	-4.93	54	35.45	34	12.15	32.53	221	201	A	H
		5180	103.79	-	-	90.04	34.13	12.16	32.54	221	201	P	H
		5180	96.97	-	-	83.22	34.13	12.16	32.54	221	201	A	H
		5149.24	60.7	-13.3	74	47.08	34	12.15	32.53	323	93	P	V
		5149.5	46.61	-7.39	54	32.99	34	12.15	32.53	323	93	A	V
		5180	101.76	-	-	88.01	34.13	12.16	32.54	323	93	P	V
		5180	93.81	-	-	80.06	34.13	12.16	32.54	323	93	A	V
802.11n HT20 CH 44 5220MHz		5114.66	51.75	-22.25	74	38.2	33.93	12.14	32.52	193	189	P	H
		5148.98	42.57	-11.43	54	28.95	34	12.15	32.53	193	189	A	H
		5220	101.63	-	-	87.78	34.23	12.17	32.55	193	189	P	H
		5220	96	-	-	82.15	34.23	12.17	32.55	193	189	A	H
		5391.84	52.01	-21.99	74	37.97	34.4	12.22	32.58	193	189	P	H
		5362.32	42.2	-11.8	54	28.16	34.4	12.21	32.57	193	189	A	H
		5040.82	52.48	-21.52	74	39.07	33.8	12.12	32.51	322	97	P	V
		5149.5	42.37	-11.63	54	28.75	34	12.15	32.53	322	97	A	V
		5220	99.76	-	-	85.91	34.23	12.17	32.55	322	97	P	V
		5220	94.48	-	-	80.63	34.23	12.17	32.55	322	97	A	V
		5459.76	52.02	-21.98	74	37.97	34.4	12.24	32.59	322	97	P	V
	5373.6	42.05	-11.95	54	28.01	34.4	12.21	32.57	322	97	A	V	



802.11n HT20 CH 48 5240MHz	5032.5	52	-22	74	38.59	33.8	12.12	32.51	217	192	P	H
	5150	42.4	-11.6	54	28.78	34	12.15	32.53	217	192	A	H
	5240	102.09	-	-	88.16	34.3	12.18	32.55	217	192	P	H
	5240	96	-	-	82.1	34.27	12.18	32.55	217	192	A	H
	5376	52.52	-21.48	74	38.48	34.4	12.22	32.58	217	192	P	H
	5351.52	42.37	-11.63	54	28.33	34.4	12.21	32.57	217	192	A	H
	5115.44	52.07	-21.93	74	38.53	33.93	12.14	32.53	276	96	P	V
	5148.98	42.17	-11.83	54	28.55	34	12.15	32.53	276	96	A	V
	5240	100.13	-	-	86.23	34.27	12.18	32.55	276	96	P	V
	5240	94.1	-	-	80.2	34.27	12.18	32.55	276	96	A	V
	5387.76	52.05	-21.95	74	38.01	34.4	12.22	32.58	276	96	P	V
5457.36	42.21	-11.79	54	28.16	34.4	12.24	32.59	276	96	A	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.											



5150~5250MHz

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 36		10360	49.08	-19.22	68.3	47.43	37.39	15.31	51.05	-	-	P	H
		15540	50.4	-23.6	74	45.22	40.08	17.76	52.66	-	-	P	H
5180MHz		10360	49.81	-18.49	68.3	48.16	37.39	15.31	51.05	-	-	P	V
		15540	50.32	-23.68	74	45.14	40.08	17.76	52.66	-	-	P	V
802.11n HT20 CH 44		10440	50.1	-18.2	68.3	48.4	37.45	15.32	51.07	-	-	P	H
		15660	48.77	-25.23	74	43.63	40.19	17.83	52.88	-	-	P	H
		10440	49.4	-18.9	68.3	47.7	37.45	15.32	51.07	-	-	P	V
		15660	49.44	-24.56	74	44.3	40.19	17.83	52.88	-	-	P	V
802.11n HT20 CH 48		10480	49.37	-18.93	68.3	47.65	37.49	15.32	51.09	-	-	P	H
		15720	49.85	-24.15	74	44.73	40.25	17.87	53	-	-	P	H
		10480	49.37	-18.93	68.3	47.65	37.49	15.32	51.09	-	-	P	V
		15720	50.02	-23.98	74	44.9	40.25	17.87	53	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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 )
802.11n HT40 CH 38 5190MHz		5149.76	63.23	-10.77	74	49.61	34	12.15	32.53	214	151	P	H
		5149.89	49.5	-4.5	54	35.88	34	12.15	32.53	214	151	A	H
		5190	98.8	-	-	85.05	34.13	12.16	32.54	214	151	P	H
		5190	92.32	-	-	78.57	34.13	12.16	32.54	214	151	A	H
		5417.16	51.93	-22.07	74	37.88	34.4	12.23	32.58	214	151	P	H
		5375.72	43.33	-10.67	54	29.29	34.4	12.22	32.58	214	151	A	H
		5149.76	59.39	-14.61	74	45.77	34	12.15	32.53	389	109	P	V
		5149.5	47.96	-6.04	54	34.34	34	12.15	32.53	389	109	A	V
		5190	96.76	-	-	83.01	34.13	12.16	32.54	389	109	P	V
		5190	89.96	-	-	76.21	34.13	12.16	32.54	389	109	A	V
		5353.88	51.81	-22.19	74	37.77	34.4	12.21	32.57	389	109	P	V
		5405.68	42.83	-11.17	54	28.79	34.4	12.22	32.58	389	109	A	V
802.11n HT40 CH 46 5230MHz		5132.08	53.71	-20.29	74	40.12	33.97	12.15	32.53	269	190	P	H
		5150	43.83	-10.17	54	30.21	34	12.15	32.53	269	190	A	H
		5230	98.12	-	-	84.23	34.27	12.17	32.55	269	190	P	H
		5230	92.85	-	-	78.96	34.27	12.17	32.55	269	190	A	H
		5376	52.01	-21.99	74	37.97	34.4	12.22	32.58	269	190	P	H
		5365.92	43.28	-10.72	54	29.24	34.4	12.21	32.57	269	190	A	H
		5137.28	52.87	-21.13	74	39.28	33.97	12.15	32.53	291	92	P	V
		5150	43.74	-10.26	54	30.12	34	12.15	32.53	291	92	A	V
		5230	97.83	-	-	83.94	34.27	12.17	32.55	291	92	P	V
		5230	91.58	-	-	77.69	34.27	12.17	32.55	291	92	A	V
	5360.64	52.64	-21.36	74	38.6	34.4	12.21	32.57	291	92	P	V	
	5363.76	43.27	-10.73	54	29.23	34.4	12.21	32.57	291	92	A	V	
Remark	<p>1. No other spurious found.</p> <p>2. All results are PASS against Peak and Average limit line.</p>												



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		10380	49.46	-18.84	68.3	47.78	37.41	15.32	51.05	-	-	P	H
HT40		15570	49.94	-24.06	74	44.77	40.11	17.78	52.72	-	-	P	H
CH 38		10380	49.52	-18.78	68.3	47.84	37.41	15.32	51.05	-	-	P	V
5190MHz		15570	50.02	-23.98	74	44.85	40.11	17.78	52.72	-	-	P	V
802.11n		10460	48.23	-20.07	68.3	46.53	37.46	15.32	51.08	-	-	P	H
HT40		15690	48.55	-25.45	74	43.42	40.22	17.85	52.94	-	-	P	H
CH 46		10460	48.26	-20.04	68.3	46.56	37.46	15.32	51.08	-	-	P	V
5230MHz		15690	49.73	-24.27	74	44.6	40.22	17.85	52.94	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												





5150~5250MHz

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 42 5210MHz		5142.48	56.41	-17.59	74	42.79	34	12.15	32.53	228	199	P	H
		5150	50.02	-3.98	54	36.4	34	12.15	32.53	228	199	A	H
		5210	93.84	-	-	79.98	34.23	12.17	32.54	228	199	P	H
		5210	87.66	-	-	73.8	34.23	12.17	32.54	228	199	A	H
		5371.2	51.29	-22.71	74	37.25	34.4	12.21	32.57	228	199	P	H
		5382.72	44.48	-9.52	54	30.44	34.4	12.22	32.58	228	199	A	H
		5142.22	55.02	-18.98	74	41.4	34	12.15	32.53	359	109	P	V
		5144.04	48.86	-5.14	54	35.24	34	12.15	32.53	359	109	A	V
		5210	91.41	-	-	77.55	34.23	12.17	32.54	359	109	P	V
		5210	85.76	-	-	71.9	34.23	12.17	32.54	359	109	A	V
	5443.92	51.81	-22.19	74	37.77	34.4	12.23	32.59	359	109	P	V	
	5363.76	44.17	-9.83	54	30.13	34.4	12.21	32.57	359	109	A	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



5150~5250MHz

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		10420	48.97	-19.33	68.3	47.29	37.43	15.32	51.07	-	-	P	H
VHT80		15630	49.22	-24.78	74	44.08	40.17	17.82	52.85	-	-	P	H
CH 42		10420	48.7	-19.6	68.3	47.02	37.43	15.32	51.07	-	-	P	V
5210MHz		15630	49.38	-24.62	74	44.24	40.17	17.82	52.85	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



5250~5350MHz

WiFi 802.11a (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 )
802.11a CH 52 5260MHz		5146.12	52.68	-21.32	74	39.06	34	12.15	32.53	213	197	P	H
		5147.94	42.48	-11.52	54	28.86	34	12.15	32.53	213	197	A	H
		5260	104.22	-	-	90.26	34.33	12.18	32.55	213	197	P	H
		5260	98.46	-	-	84.5	34.33	12.18	32.55	213	197	A	H
		5354.16	52.49	-21.51	74	38.45	34.4	12.21	32.57	213	197	P	H
		5356.08	42.82	-11.18	54	28.78	34.4	12.21	32.57	213	197	A	H
		5145.6	51.76	-22.24	74	38.14	34	12.15	32.53	325	101	P	V
		5129.48	42.24	-11.76	54	28.65	33.97	12.15	32.53	325	101	A	V
		5260	103.06	-	-	89.1	34.33	12.18	32.55	325	101	P	V
		5260	96.37	-	-	82.41	34.33	12.18	32.55	325	101	A	V
		5431.44	51.37	-22.63	74	37.33	34.4	12.23	32.59	325	101	P	V
		5356.8	42.39	-11.61	54	28.35	34.4	12.21	32.57	325	101	A	V
802.11a CH 60 5300MHz		5066.56	51.38	-22.62	74	37.94	33.83	12.13	32.52	221	198	P	H
		5130.52	42.34	-11.66	54	28.75	33.97	12.15	32.53	221	198	A	H
		5300	104.53	-	-	90.5	34.4	12.19	32.56	221	198	P	H
		5300	98.73	-	-	84.7	34.4	12.19	32.56	221	198	A	H
		5350.56	60.78	-13.22	74	46.74	34.4	12.21	32.57	221	198	P	H
		5350.8	47.4	-6.6	54	33.36	34.4	12.21	32.57	221	198	A	H
		5144.04	51.85	-22.15	74	38.23	34	12.15	32.53	310	111	P	V
		5125.06	42.03	-11.97	54	28.44	33.97	12.15	32.53	310	111	A	V
		5300	100.91	-	-	86.88	34.4	12.19	32.56	310	111	P	V
		5300	95.14	-	-	81.11	34.4	12.19	32.56	310	111	A	V
		5360.4	54.76	-19.24	74	40.72	34.4	12.21	32.57	310	111	P	V
		5350.08	44.56	-9.44	54	30.52	34.4	12.21	32.57	310	111	A	V



<b>802.11a</b> <b>CH 64</b> <b>5320MHz</b>		5320	103.01	-	-	88.97	34.4	12.2	32.56	373	192	P	H
		5320	96.99	-	-	82.95	34.4	12.2	32.56	373	192	A	H
		5352.48	64.09	-9.91	74	50.05	34.4	12.21	32.57	373	192	P	H
		5350.24	51.76	-2.24	54	37.72	34.4	12.21	32.57	373	192	A	H
		5320	99.86	-	-	85.82	34.4	12.2	32.56	335	101	P	V
		5320	94.17	-	-	80.13	34.4	12.2	32.56	335	101	A	V
		5350.72	62.45	-11.55	74	48.41	34.4	12.21	32.57	335	101	P	V
		5350.88	49.73	-4.27	54	35.69	34.4	12.21	32.57	335	101	A	V
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



5250~5350MHz

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 52 5260MHz		10520	50.83	-17.47	68.3	49.06	37.51	15.37	51.11	-	-	P	H
		15780	50.25	-23.75	74	45.15	40.3	17.9	53.1	-	-	P	H
		10520	50.03	-18.27	68.3	48.26	37.51	15.37	51.11	-	-	P	V
		15780	50.01	-23.99	74	44.91	40.3	17.9	53.1	-	-	P	V
802.11a CH 60 5300MHz		10600	50.22	-23.78	74	48.27	37.56	15.55	51.16	-	-	P	H
		15900	49.99	-24.01	74	44.92	40.41	17.97	53.31	-	-	P	H
		10600	49.69	-24.31	74	47.74	37.56	15.55	51.16	-	-	P	V
		15900	50.19	-23.81	74	45.12	40.41	17.97	53.31	-	-	P	V
802.11a CH 64 5320MHz		10640	50.48	-23.52	74	48.43	37.58	15.65	51.18	-	-	P	H
		15960	50.74	-23.26	74	45.7	40.47	18.01	53.44	-	-	P	H
		10640	50.6	-23.4	74	48.55	37.58	15.65	51.18	-	-	P	V
		15960	50.05	-23.95	74	45.01	40.47	18.01	53.44	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



5250~5350MHz

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 52 5260MHz		5145.08	52.08	-21.92	74	38.46	34	12.15	32.53	223	200	P	H
		5141.44	42.23	-11.77	54	28.61	34	12.15	32.53	223	200	A	H
		5260	103.27	-	-	89.31	34.33	12.18	32.55	223	200	P	H
		5260	97.41	-	-	83.45	34.33	12.18	32.55	223	200	A	H
		5402.88	52.25	-21.75	74	38.21	34.4	12.22	32.58	223	200	P	H
		5358.48	42.74	-11.26	54	28.7	34.4	12.21	32.57	223	200	A	H
		5095.68	52.04	-21.96	74	38.52	33.9	12.14	32.52	288	110	P	V
		5133.9	42.07	-11.93	54	28.48	33.97	12.15	32.53	288	110	A	V
		5260	101.23	-	-	87.27	34.33	12.18	32.55	288	110	P	V
		5260	94.97	-	-	81.01	34.33	12.18	32.55	288	110	A	V
		5378.88	51.8	-22.2	74	37.76	34.4	12.22	32.58	288	110	P	V
		5400.48	42.25	-11.75	54	28.21	34.4	12.22	32.58	288	110	A	V
802.11n HT20 CH 60 5300MHz		5138.95	52.16	-21.84	74	38.57	33.97	12.15	32.53	223	188	P	H
		5129.15	42.24	-11.76	54	28.65	33.97	12.15	32.53	223	188	A	H
		5300	104.21	-	-	90.18	34.4	12.19	32.56	223	188	P	H
		5300	98.15	-	-	84.12	34.4	12.19	32.56	223	188	A	H
		5351.76	58.09	-15.91	74	44.05	34.4	12.21	32.57	223	188	P	H
		5350.08	46.55	-7.45	54	32.51	34.4	12.21	32.57	223	188	A	H
		5094.85	51.56	-22.44	74	38.04	33.9	12.14	32.52	281	103	P	V
		5137.9	42.03	-11.97	54	28.44	33.97	12.15	32.53	281	103	A	V
		5300	102.24	-	-	88.21	34.4	12.19	32.56	281	103	P	V
		5300	96.13	-	-	82.1	34.4	12.19	32.56	281	103	A	V
	5353.68	57.42	-16.58	74	43.38	34.4	12.21	32.57	281	103	P	V	
	5350.08	44.31	-9.69	54	30.27	34.4	12.21	32.57	281	103	A	V	



<b>802.11n</b>  <b>HT20</b>  <b>CH 64</b>  <b>5320MHz</b>		5320	102.32	-	-	88.28	34.4	12.2	32.56	196	177	P	H
		5320	97.14	-	-	83.1	34.4	12.2	32.56	196	177	A	H
		5352.32	65.65	-8.35	74	51.61	34.4	12.21	32.57	196	177	P	H
		5350.24	51.54	-2.46	54	37.5	34.4	12.21	32.57	196	177	A	H
		5320	100.2	-	-	86.16	34.4	12.2	32.56	301	84	P	V
		5320	95.04	-	-	81	34.4	12.2	32.56	301	84	A	V
		5350.72	63.63	-10.37	74	49.59	34.4	12.21	32.57	301	84	P	V
		5350.08	50.85	-3.15	54	36.81	34.4	12.21	32.57	301	84	A	V
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



5250~5350MHz

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		10520	48.9	-19.4	68.3	47.13	37.51	15.37	51.11	-	-	P	H
HT20		15780	49.43	-24.57	74	44.33	40.3	17.9	53.1	-	-	P	H
CH 52		10520	48.58	-19.72	68.3	46.81	37.51	15.37	51.11	-	-	P	V
5260MHz		15780	50.13	-23.87	74	45.03	40.3	17.9	53.1	-	-	P	V
802.11n		10600	49.66	-24.34	74	47.71	37.56	15.55	51.16	-	-	P	H
HT20		15900	49.8	-24.2	74	44.73	40.41	17.97	53.31	-	-	P	H
CH 60		10600	49.37	-24.63	74	47.42	37.56	15.55	51.16	-	-	P	V
5300MHz		15900	50.45	-23.55	74	45.38	40.41	17.97	53.31	-	-	P	V
802.11n		10640	49.91	-24.09	74	47.86	37.58	15.65	51.18	-	-	P	H
HT20		15960	49.95	-24.05	74	44.91	40.47	18.01	53.44	-	-	P	H
CH 64		10640	50.43	-23.57	74	48.38	37.58	15.65	51.18	-	-	P	V
5320MHz		15960	49.89	-24.11	74	44.85	40.47	18.01	53.44	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												





5250~5350MHz

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 54 5270MHz		5143.15	52.07	-21.93	74	38.45	34	12.15	32.53	241	187	P	H
		5144.9	43.13	-10.87	54	29.51	34	12.15	32.53	241	187	A	H
		5270	101.62	-	-	87.65	34.33	12.19	32.55	241	187	P	H
		5270	94.64	-	-	80.67	34.33	12.19	32.55	241	187	A	H
		5355.84	57.67	-16.33	74	43.63	34.4	12.21	32.57	241	187	P	H
		5352.24	46.42	-7.58	54	32.38	34.4	12.21	32.57	241	187	A	H
		5095.55	51.54	-22.46	74	38.02	33.9	12.14	32.52	335	103	P	V
		5147.35	43.02	-10.98	54	29.4	34	12.15	32.53	335	103	A	V
		5270	98.58	-	-	84.61	34.33	12.19	32.55	335	103	P	V
		5270	92.37	-	-	78.4	34.33	12.19	32.55	335	103	A	V
		5382	53.92	-20.08	74	39.88	34.4	12.22	32.58	335	103	P	V
		5350.08	44.73	-9.27	54	30.69	34.4	12.21	32.57	335	103	A	V
802.11n HT40 CH 62 5310MHz		5071.05	51.65	-22.35	74	38.21	33.83	12.13	32.52	143	146	P	H
		5122.15	43.26	-10.74	54	29.72	33.93	12.14	32.53	143	146	A	H
		5310	97.55	-	-	83.51	34.4	12.2	32.56	143	146	P	H
		5310	91.89	-	-	77.85	34.4	12.2	32.56	143	146	A	H
		5352.72	62.26	-11.74	74	48.22	34.4	12.21	32.57	143	146	P	H
		5351.04	48.7	-5.3	54	34.66	34.4	12.21	32.57	143	146	A	H
		5119.35	52.06	-21.94	74	38.52	33.93	12.14	32.53	353	217	P	V
		5136.85	42.92	-11.08	54	29.33	33.97	12.15	32.53	353	217	A	V
		5310	95.36	-	-	81.32	34.4	12.2	32.56	353	217	P	V
		5310	89.09	-	-	75.05	34.4	12.2	32.56	353	217	A	V
	5352.72	60.49	-13.51	74	46.45	34.4	12.21	32.57	353	217	P	V	
	5350.32	47.09	-6.91	54	33.05	34.4	12.21	32.57	353	217	A	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



5250~5350MHz

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		10540	48.41	-19.89	68.3	46.6	37.52	15.41	51.12	-	-	P	H
HT40		15810	50.43	-23.57	74	45.34	40.33	17.92	53.16	-	-	P	H
CH 54		10540	49.42	-18.88	68.3	47.61	37.52	15.41	51.12	-	-	P	V
5270MHz		15810	50.58	-23.42	74	45.49	40.33	17.92	53.16	-	-	P	V
802.11n		10620	48.26	-25.74	74	46.26	37.57	15.6	51.17	-	-	P	H
HT40		15930	50.96	-23.04	74	45.91	40.44	17.99	53.38	-	-	P	H
CH 62		10620	48.27	-25.73	74	46.27	37.57	15.6	51.17	-	-	P	V
5310MHz		15930	49.6	-24.4	74	44.55	40.44	17.99	53.38	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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		5041.65	51.67	-22.33	74	38.26	33.8	12.12	32.51	210	184	P	H
		5130.2	44.18	-9.82	54	30.59	33.97	12.15	32.53	210	184	A	H
		5290	92.77	-	-	78.77	34.37	12.19	32.56	210	184	P	H
		5290	86.1	-	-	72.1	34.37	12.19	32.56	210	184	A	H
		5378.64	58.86	-15.14	74	44.82	34.4	12.22	32.58	210	184	P	H
		5377.2	46.92	-7.08	54	32.88	34.4	12.22	32.58	210	184	A	H
		5083.3	51.76	-22.24	74	38.28	33.87	12.13	32.52	337	95	P	V
		5149.45	44.29	-9.71	54	30.67	34	12.15	32.53	337	95	A	V
		5290	89.51	-	-	75.51	34.37	12.19	32.56	337	95	P	V
		5290	84.35	-	-	70.35	34.37	12.19	32.56	337	95	A	V
	5383.92	54.03	-19.97	74	39.99	34.4	12.22	32.58	337	95	P	V	
	5376.96	45.49	-8.51	54	31.45	34.4	12.22	32.58	337	95	A	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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		10580	48.76	-19.54	68.3	46.85	37.55	15.51	51.15	-	-	P	H
VHT80		15870	50.04	-23.96	74	44.98	40.39	17.95	53.28	-	-	P	H
CH 58		10580	48.45	-19.85	68.3	46.54	37.55	15.51	51.15	-	-	P	V
5290MHz		15870	49.43	-24.57	74	44.37	40.39	17.95	53.28	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



5470~5725MHz

WIFI 802.11a (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)
802.11a CH 100 5500MHz		5455.12	57.46	-16.54	74	43.41	34.4	12.24	32.59	311	195	P	H
		5468.56	61.05	-7.25	68.3	47	34.4	12.24	32.59	311	195	P	H
		5459.76	44.73	-9.27	54	30.68	34.4	12.24	32.59	311	195	A	H
		5500	101.44	-	-	87.39	34.4	12.25	32.6	311	195	P	H
		5500	95.27	-	-	81.22	34.4	12.25	32.6	311	195	A	H
		5458.32	54.93	-19.07	74	40.88	34.4	12.24	32.59	397	212	P	V
		5468.24	60.08	-8.22	68.3	46.03	34.4	12.24	32.59	397	212	P	V
		5459.28	43.52	-10.48	54	29.47	34.4	12.24	32.59	397	212	A	V
		5500	99.49	-	-	85.44	34.4	12.25	32.6	397	212	P	V
		5500	93.06	-	-	79.01	34.4	12.25	32.6	397	212	A	V
802.11a CH 116 5580MHz		5358.64	51.91	-22.09	74	37.87	34.4	12.21	32.57	221	199	P	H
		5462.08	51.07	-17.23	68.3	37.02	34.4	12.24	32.59	221	199	P	H
		5446.48	42.47	-11.53	54	28.42	34.4	12.24	32.59	221	199	A	H
		5580	102.74	-	-	88.77	34.3	12.27	32.6	221	199	P	H
		5580	97.81	-	-	83.84	34.3	12.27	32.6	221	199	A	H
		5726.255	51.56	-16.74	68.3	37.39	34.47	12.3	32.6	221	199	P	H
		5392	52.47	-21.53	74	38.43	34.4	12.22	32.58	313	111	P	V
		5465.92	51.22	-17.08	68.3	37.17	34.4	12.24	32.59	313	111	P	V
		5439.52	42.09	-11.91	54	28.05	34.4	12.23	32.59	313	111	A	V
		5580	101.47	-	-	87.5	34.3	12.27	32.6	313	111	P	V
		5580	95.03	-	-	81.06	34.3	12.27	32.6	313	111	A	V
	5756.18	52.63	-15.67	68.3	38.36	34.57	12.3	32.6	313	111	P	V	



802.11a CH 140 5700MHz	5700	104.03	-	-	89.94	34.4	12.29	32.6	205	183	P	H
	5700	98.41	-	-	84.32	34.4	12.29	32.6	205	183	A	H
	5726.12	66.21	-2.09	68.3	52.04	34.47	12.3	32.6	350	185	P	H
	5700	102.45	-	-	88.36	34.4	12.29	32.6	349	43	P	V
	5700	95.19	-	-	81.1	34.4	12.29	32.6	349	43	A	V
	5725.64	61.75	-6.55	68.3	47.58	34.47	12.3	32.6	349	43	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.											



5470~5725MHz

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 100 5500MHz		11000	50.21	-23.79	74	47.32	37.8	16.49	51.4	-	-	P	H
		16500	49.84	-18.46	68.3	43.03	41.31	18.2	52.7	-	-	P	H
		11000	50.55	-23.45	74	47.66	37.8	16.49	51.4	-	-	P	V
		16500	49.94	-18.36	68.3	43.13	41.31	18.2	52.7	-	-	P	V
802.11a CH 116 5580MHz		11160	50.74	-23.26	74	47.57	37.94	16.5	51.27	-	-	P	H
		16740	50.75	-17.55	68.3	43.91	41.69	18.28	53.13	-	-	P	H
		11160	50.49	-23.51	74	47.32	37.94	16.5	51.27	-	-	P	V
		16740	50.18	-18.12	68.3	43.34	41.69	18.28	53.13	-	-	P	V
802.11a CH 140 5700MHz		11400	50.72	-23.28	74	47.15	38.13	16.52	51.08	-	-	P	H
		17100	49.96	-18.34	68.3	43.07	42	18.41	53.52	-	-	P	H
		11400	50.54	-23.46	74	46.97	38.13	16.52	51.08	-	-	P	V
		17100	50.71	-17.59	68.3	43.82	42	18.41	53.52	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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		5454.16	58.08	-15.92	74	44.03	34.4	12.24	32.59	200	191	P	H
		5470	62.34	-5.96	68.3	48.29	34.4	12.24	32.59	200	191	P	H
		5458.96	45.38	-8.62	54	31.33	34.4	12.24	32.59	200	191	A	H
		5500	100.44	-	-	86.39	34.4	12.25	32.6	200	191	P	H
		5500	94.74	-	-	80.69	34.4	12.25	32.6	200	191	A	H
		5457.36	55.66	-18.34	74	41.61	34.4	12.24	32.59	310	89	P	V
		5468.4	60.68	-7.62	68.3	46.63	34.4	12.24	32.59	310	89	P	V
		5459.44	44.11	-9.89	54	30.06	34.4	12.24	32.59	310	89	A	V
		5500	99.64	-	-	85.59	34.4	12.25	32.6	310	89	P	V
	5500	93.35	-	-	79.3	34.4	12.25	32.6	310	89	A	V	
802.11n HT20 CH 116 5580MHz		5458.24	51.99	-22.01	74	37.94	34.4	12.24	32.59	183	189	P	H
		5467.6	50.66	-17.64	68.3	36.61	34.4	12.24	32.59	183	189	P	H
		5421.76	42.34	-11.66	54	28.29	34.4	12.23	32.58	183	189	A	H
		5580	102.24	-	-	88.27	34.3	12.27	32.6	183	189	P	H
		5580	96.47	-	-	82.5	34.3	12.27	32.6	183	189	A	H
		5729.09	51.05	-17.25	68.3	36.88	34.47	12.3	32.6	183	189	P	H
		5373.52	51.9	-22.1	74	37.86	34.4	12.21	32.57	292	88	P	V
		5465.92	50.37	-17.93	68.3	36.32	34.4	12.24	32.59	292	88	P	V
		5410.72	42.29	-11.71	54	28.24	34.4	12.23	32.58	292	88	A	V
		5580	99.89	-	-	85.92	34.3	12.27	32.6	292	88	P	V
	5580	94.57	-	-	80.6	34.3	12.27	32.6	292	88	A	V	
	5729.09	51.22	-17.08	68.3	37.05	34.47	12.3	32.6	292	88	P	V	





<b>802.11n</b> <b>HT20</b> <b>CH 140</b> <b>5700MHz</b>		5700	99.45	-	-	85.36	34.4	12.29	32.6	199	195	P	H
		5700	514.09	-	-	500	34.4	12.29	32.6	199	195	A	H
		5725.25	56.92	-11.38	68.3	42.75	34.47	12.3	32.6	199	195	P	H
		5700	98.77	-	-	84.68	34.4	12.29	32.6	299	98	P	V
		5700	92.19	-	-	78.1	34.4	12.29	32.6	299	98	A	V
		5725	56.34	-11.96	68.3	42.17	34.47	12.3	32.6	299	98	P	V
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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		11000	50.98	-23.02	74	48.09	37.8	16.49	51.4	-	-	P	H
		16500	50	-18.3	68.3	43.19	41.31	18.2	52.7	-	-	P	H
CH 100 5500MHz		11000	50.72	-23.28	74	47.83	37.8	16.49	51.4	-	-	P	V
		16500	49.91	-18.39	68.3	43.1	41.31	18.2	52.7	-	-	P	V
802.11n HT20 CH 116 5580MHz		11160	50.55	-23.45	74	47.38	37.94	16.5	51.27	-	-	P	H
		16740	50.34	-17.96	68.3	43.5	41.69	18.28	53.13	-	-	P	H
		11160	49.48	-24.52	74	46.31	37.94	16.5	51.27	-	-	P	V
		16740	49.92	-18.38	68.3	43.08	41.69	18.28	53.13	-	-	P	V
802.11n HT20 CH 140 5700MHz		11400	50.2	-23.8	74	46.63	38.13	16.52	51.08	-	-	P	H
		17100	50.32	-17.98	68.3	43.43	42	18.41	53.52	-	-	P	H
		11400	49.9	-24.1	74	46.33	38.13	16.52	51.08	-	-	P	V
		17100	50.54	-17.76	68.3	43.65	42	18.41	53.52	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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		5456.08	56.15	-17.85	74	42.1	34.4	12.24	32.59	314	199	P	H
		5469.28	57.77	-10.53	68.3	43.72	34.4	12.24	32.59	314	199	P	H
		5458.72	43.93	-10.07	54	29.88	34.4	12.24	32.59	314	199	A	H
		5510	94.82	-	-	80.77	34.4	12.25	32.6	314	199	P	H
		5510	88.85	-	-	74.8	34.4	12.25	32.6	314	199	A	H
		5759.015	51.63	-16.67	68.3	37.36	34.57	12.3	32.6	314	199	P	H
		5456.56	57.76	-16.24	74	43.71	34.4	12.24	32.59	330	225	P	V
		5469.76	57.72	-10.58	68.3	43.67	34.4	12.24	32.59	330	225	P	V
		5459.68	43.9	-10.1	54	29.85	34.4	12.24	32.59	330	225	A	V
		5510	93.61	-	-	79.56	34.4	12.25	32.6	330	225	P	V
		5510	87.05	-	-	73	34.4	12.25	32.6	330	225	A	V
		5763.74	51.63	-16.67	68.3	37.36	34.57	12.3	32.6	330	225	P	V
802.11n HT40 CH 110 5550MHz		5456.56	53.04	-20.96	74	38.99	34.4	12.24	32.59	256	173	P	H
		5466.64	56.95	-11.35	68.3	42.9	34.4	12.24	32.59	256	173	P	H
		5449.6	43.43	-10.57	54	29.38	34.4	12.24	32.59	256	173	A	H
		5550	98.25	-	-	84.29	34.3	12.26	32.6	256	173	P	H
		5550	92.46	-	-	78.5	34.3	12.26	32.6	256	173	A	H
		5746.1	51.17	-17.13	68.3	36.97	34.5	12.3	32.6	256	173	P	H
		5458.48	53.84	-20.16	74	39.79	34.4	12.24	32.59	339	209	P	V
		5470	53.68	-14.62	68.3	39.63	34.4	12.24	32.59	339	209	P	V
		5458.96	43.7	-10.3	54	29.65	34.4	12.24	32.59	339	209	A	V
		5550	97.77	-	-	83.81	34.3	12.26	32.6	339	209	P	V
	5550	91.76	-	-	77.8	34.3	12.26	32.6	339	209	A	V	
	5725.625	52.02	-16.28	68.3	37.85	34.47	12.3	32.6	339	209	P	V	



<b>802.11n</b>  <b>HT40</b>  <b>CH 134</b>  <b>5670MHz</b>	5448	50.91	-23.09	74	36.86	34.4	12.24	32.59	271	193	P	H
	5469.35	51.11	-17.19	68.3	37.06	34.4	12.24	32.59	271	193	P	H
	5414.05	42.73	-11.27	54	28.68	34.4	12.23	32.58	271	193	A	H
	5670	100.35	-	-	86.27	34.4	12.28	32.6	271	193	P	H
	5670	93.88	-	-	79.8	34.4	12.28	32.6	271	193	A	H
	5727.2	59.9	-8.4	68.3	45.73	34.47	12.3	32.6	271	193	P	H
	5394.1	52.73	-21.27	74	38.69	34.4	12.22	32.58	297	204	P	V
	5463.75	50.58	-17.72	68.3	36.53	34.4	12.24	32.59	297	204	P	V
	5446.95	42.91	-11.09	54	28.86	34.4	12.24	32.59	297	204	A	V
	5670	97.99	-	-	83.91	34.4	12.28	32.6	297	204	P	V
	5670	91.88	-	-	77.8	34.4	12.28	32.6	297	204	A	V
	5725.975	60.07	-8.23	68.3	45.9	34.47	12.3	32.6	297	204	P	V
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.											



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		11020	49.28	-24.72	74	46.37	37.81	16.49	51.39	-	-	P	H
HT40		16530	49.16	-19.14	68.3	42.34	41.37	18.21	52.76	-	-	P	H
CH 102		11020	49.1	-24.9	74	46.19	37.81	16.49	51.39	-	-	P	V
5510MHz		16530	50.7	-17.6	68.3	43.88	41.37	18.21	52.76	-	-	P	V
802.11n		11100	49.38	-24.62	74	46.32	37.88	16.5	51.32	-	-	P	H
HT40		16650	50.2	-18.1	68.3	43.37	41.56	18.25	52.98	-	-	P	H
CH 110		11100	49.69	-24.31	74	46.63	37.88	16.5	51.32	-	-	P	V
5550MHz		16650	50.11	-18.19	68.3	43.28	41.56	18.25	52.98	-	-	P	V
802.11n		11340	49.58	-24.42	74	46.12	38.07	16.52	51.13	-	-	P	H
HT40		17010	49.11	-19.19	68.3	42.25	42.08	18.37	53.59	-	-	P	H
CH 134		11340	49.51	-24.49	74	46.05	38.07	16.52	51.13	-	-	P	V
5670MHz		17010	49.56	-18.74	68.3	42.7	42.08	18.37	53.59	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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 )
802.11ac VHT80 CH 106 5530MHz		5459.44	56.14	-17.86	74	42.09	34.4	12.24	32.59	297	187	P	H
		5462.32	58.31	-9.99	68.3	44.26	34.4	12.24	32.59	297	187	P	H
		5459.2	46.8	-7.2	54	32.75	34.4	12.24	32.59	297	187	A	H
		5530	93.21	-	-	79.18	34.37	12.26	32.6	297	187	P	H
		5530	86.52	-	-	72.49	34.37	12.26	32.6	297	187	A	H
		5724.995	52.02	-16.28	68.3	37.86	34.47	12.29	32.6	297	187	P	H
		5427.04	54.86	-19.14	74	40.82	34.4	12.23	32.59	298	216	P	V
		5469.04	56.16	-12.14	68.3	42.11	34.4	12.24	32.59	298	216	P	V
		5449.36	46.59	-7.41	54	32.54	34.4	12.24	32.59	298	216	A	V
		5530	91.81	-	-	77.78	34.37	12.26	32.6	298	216	P	V
		5530	85.58	-	-	71.55	34.37	12.26	32.6	298	216	A	V
		5733.5	52.57	-15.73	68.3	38.4	34.47	12.3	32.6	298	216	P	V
802.11ac VHT80 CH 122 5610MHz		5455.84	53.56	-20.44	74	39.51	34.4	12.24	32.59	351	177	P	H
		5461.84	55.14	-13.16	68.3	41.09	34.4	12.24	32.59	351	177	P	H
		5458.48	46.3	-7.7	54	32.25	34.4	12.24	32.59	351	177	A	H
		5610	97	-	-	83.03	34.3	12.27	32.6	351	177	P	H
		5610	90.62	-	-	76.65	34.3	12.27	32.6	351	177	A	H
		5731.925	57.48	-10.82	68.3	43.31	34.47	12.3	32.6	351	177	P	H
		5454.16	54.68	-19.32	74	40.63	34.4	12.24	32.59	349	209	P	V
		5466.4	55.08	-13.22	68.3	41.03	34.4	12.24	32.59	349	209	P	V
		5457.52	47.04	-6.96	54	32.99	34.4	12.24	32.59	349	209	A	V
		5610	95.22	-	-	81.25	34.3	12.27	32.6	349	209	P	V
	5610	89.64	-	-	75.67	34.3	12.27	32.6	349	209	A	V	
	5729.825	55.63	-12.67	68.3	41.46	34.47	12.3	32.6	349	209	P	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



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		11060	50.42	-23.58	74	47.43	37.85	16.49	51.35	-	-	P	H
VHT80		16590	50.13	-18.17	68.3	43.31	41.45	18.23	52.86	-	-	P	H
CH 106		11060	50.87	-23.13	74	47.88	37.85	16.49	51.35	-	-	P	V
5530MHz		16590	49.75	-18.55	68.3	42.93	41.45	18.23	52.86	-	-	P	V
802.11ac		11220	50.28	-23.72	74	47.02	37.98	16.51	51.23	-	-	P	H
VHT80		16830	50.48	-17.82	68.3	43.63	41.83	18.31	53.29	-	-	P	H
CH 122		11220	49.79	-24.21	74	46.53	37.98	16.51	51.23	-	-	P	V
5610MHz		16830	50.02	-18.28	68.3	43.17	41.83	18.31	53.29	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



5470~5725MHz

Straddle Channel

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 144 5720MHz		5440.2	51.59	-22.41	74	37.55	34.4	12.23	32.59	270	161	P	H
		5462.2	50.93	-17.37	68.3	36.88	34.4	12.24	32.59	270	161	P	H
		5720	106.39	-	-	92.23	34.47	12.29	32.6	270	161	P	H
		5862.05	52.62	-15.68	68.3	38.03	34.87	12.32	32.6	270	161	P	H
		5359.9	45.21	-8.79	54	31.17	34.4	12.21	32.57	270	161	A	H
		5390.15	52.66	-21.34	74	38.62	34.4	12.22	32.58	271	68	P	V
		5464.95	52	-16.3	68.3	37.95	34.4	12.24	32.59	271	68	P	V
		5720	110.34	-	-	96.18	34.47	12.29	32.6	271	68	P	V
		5890.1	52.68	-15.62	68.3	37.95	35	12.33	32.6	271	68	P	V
	5365.4	44.42	-9.58	54	30.38	34.4	12.21	32.57	271	68	A	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												





**Straddle Channel**  
**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 144 5720MHz		11440	48.71	-25.29	74	26.12	38.15	16.53	32.09	157	285	P	H
		17160	49.28	-19.02	68.3	23.39	41.93	18.43	34.47	165	246	P	H
		11440	49.7	-24.3	74	27.11	38.15	16.53	32.09	157	285	P	V
		17160	49.08	-19.22	68.3	23.19	41.93	18.43	34.47	165	246	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**Straddle Channel**  
**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 144 5720MHz		5455.05	51.66	-22.34	74	37.61	34.4	12.24	32.59	271	157	P	H
		5464.95	51	-17.3	68.3	36.95	34.4	12.24	32.59	271	157	P	H
		5720	105.91	-	-	91.75	34.47	12.29	32.6	271	157	P	H
		5884.05	53.02	-15.28	68.3	38.36	34.93	12.33	32.6	271	157	P	H
		5441.3	44.3	-9.7	54	30.26	34.4	12.23	32.59	271	157	A	H
		5369.8	51.52	-22.48	74	37.48	34.4	12.21	32.57	266	59	P	V
		5468.8	50.88	-17.42	68.3	36.83	34.4	12.24	32.59	266	59	P	V
		5720	110.72	-	-	96.56	34.47	12.29	32.6	266	59	P	V
		5863.7	52.78	-15.52	68.3	38.19	34.87	12.32	32.6	266	59	P	V
	5396.75	44.57	-9.43	54	30.53	34.4	12.22	32.58	266	59	A	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Straddle Channel

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 144 5720MHz		11440	49.11	-24.89	74	26.52	38.15	16.53	32.09	157	285	P	H
		17160	50.04	-18.26	68.3	24.15	41.93	18.43	34.47	165	246	P	H
		11440	49.12	-24.88	74	26.53	38.15	16.53	32.09	157	285	P	V
		17160	50.98	-17.32	68.3	25.09	41.93	18.43	34.47	165	246	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Straddle Channel

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 142 5710MHz		5386.85	51.73	-22.27	74	37.69	34.4	12.22	32.58	274	158	P	H
		5469.35	51.26	-17.04	68.3	37.21	34.4	12.24	32.59	274	158	P	H
		5710	103.43	-	-	89.31	34.43	12.29	32.6	274	158	P	H
		5852.7	53.01	-15.29	68.3	38.49	34.8	12.32	32.6	274	158	P	H
		5409.4	44.24	-9.76	54	30.2	34.4	12.22	32.58	274	158	A	H
		5408.3	52.17	-21.83	74	38.13	34.4	12.22	32.58	274	82	P	V
		5466.6	51.56	-16.74	68.3	37.51	34.4	12.24	32.59	274	82	P	V
		5710	106.76	-	-	92.64	34.43	12.29	32.6	274	82	P	V
		5859.85	53.03	-15.27	68.3	38.44	34.87	12.32	32.6	274	82	P	V
	5410.5	44.73	-9.27	54	30.69	34.4	12.22	32.58	274	82	A	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**Straddle Channel**

**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		11420	49.88	-24.12	74	27.3	38.14	16.52	32.08			P	H
HT40		17130	50	-18.3	68.3	24.09	41.96	18.42	34.47			P	H
CH 142		11420	49.23	-24.77	74	26.65	38.14	16.52	32.08			P	V
5710MHz		17130	49.91	-18.39	68.3	24	41.96	18.42	34.47			P	V
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**Straddle Channel**

**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 138 5690MHz		5433.05	52.4	-21.6	74	38.36	34.4	12.23	32.59	272	159	P	H
		5463.85	52.11	-16.19	68.3	38.06	34.4	12.24	32.59	272	159	P	H
		5690	99.94	-	-	85.85	34.4	12.29	32.6	272	159	P	H
		5853.25	55.83	-12.47	68.3	41.31	34.8	12.32	32.6	272	159	P	H
		5436.9	44.44	-9.56	54	30.4	34.4	12.23	32.59	272	159	A	H
		5459.45	52.93	-21.07	74	38.88	34.4	12.24	32.59	272	31	P	V
		5467.7	53.15	-15.15	68.3	39.1	34.4	12.24	32.59	272	31	P	V
		5690	104.64	-	-	90.55	34.4	12.29	32.6	272	31	P	V
		5854.9	58.56	-9.74	68.3	43.97	34.87	12.32	32.6	272	31	P	V
	5458.9	45.86	-8.14	54	31.81	34.4	12.24	32.59	272	31	A	V	
<b>Remark</b>	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Straddle Channel

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		11380	49.29	-24.71	74	26.73	38.11	16.52	32.07	-	-	P	H
VHT80		17070	49.84	-18.46	68.3	23.9	42.03	18.4	34.49	-	-	P	H
CH 138		11380	49.19	-24.81	74	26.63	38.11	16.52	32.07	-	-	P	V
5690MHz		17070	50.47	-17.83	68.3	24.53	42.03	18.4	34.49	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Emission below 1GHz

WIFI 802.11a (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 )
802.11a LF		45.52	22.36	-17.64	40	36.31	16.31	1.24	31.5	-	-	P	H
		96.93	29.57	-13.93	43.5	42.91	16.46	1.8	31.6	-	-	P	H
		151.25	24.89	-18.61	43.5	37.51	16.54	2.23	31.39	-	-	P	H
		308.39	22.53	-23.47	46	31.2	19.55	3.16	31.38	-	-	P	H
		649.83	27.08	-18.92	46	28.38	25.51	4.59	31.4	-	-	P	H
		974.78	31.3	-22.7	54	29.44	27.49	5.62	31.25	-	-	P	H
		44.55	29.6	-10.4	40	43.27	16.6	1.23	31.5	-	-	P	V
		95.96	23.95	-19.55	43.5	37.6	16.16	1.79	31.6	-	-	P	V
		217.21	20.64	-25.36	46	33.98	15.43	2.67	31.44	-	-	P	V
		384.05	21.94	-24.06	46	28.55	21.22	3.53	31.36	-	-	P	V
		762.35	26.88	-19.12	46	26.88	26.19	4.97	31.16	-	-	P	V
		920.46	29.51	-16.49	46	28.68	26.79	5.46	31.42	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



Sample 2

5470~5725MHz

WIFI 802.11a (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)
802.11a CH 140 5700MHz		5700	103.09	-	-	89	34.4	12.29	32.6	388	177	P	H
		5700	97.2	-	-	83.11	34.4	12.29	32.6	388	177	A	H
		5725.64	63.23	-5.07	68.3	49.06	34.47	12.3	32.6	388	177	P	H
		5700	100.46	-	-	86.37	34.4	12.29	32.6	389	233	P	V
		5700	94.65	-	-	80.56	34.4	12.29	32.6	389	233	A	V
		5726.36	58.46	-9.84	68.3	44.29	34.47	12.3	32.6	389	233	P	V

5470~5725MHz

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 140 5700MHz		11400	49.46	-24.54	74	45.89	38.13	16.52	51.08	-	-	P	H
		17100	50.5	-17.8	68.3	43.61	42	18.41	53.52	-	-	P	H
		11400	50.73	-23.27	74	47.16	38.13	16.52	51.08	-	-	P	V
		17100	51.55	-16.75	68.3	44.66	42	18.41	53.52	-	-	P	V

**Remark**

- No other spurious found.
- All results are PASS against Peak and Average limit line.



Sample 3

5470~5725MHz

WIFI 802.11a (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)
802.11a CH 140 5700MHz		5700	102.6	-	-	88.51	34.4	12.29	32.6	355	314	P	H
		5700	97.25	-	-	83.16	34.4	12.29	32.6	355	314	A	H
		5725.96	66.15	-2.15	68.3	51.98	34.47	12.3	32.6	355	314	P	H
		5700	102.75	-	-	88.66	34.4	12.29	32.6	336	210	P	V
		5700	97.34	-	-	83.25	34.4	12.29	32.6	336	210	A	V
		5726.04	65.87	-2.43	68.3	51.7	34.47	12.3	32.6	336	210	P	V

5470~5725MHz

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 140 5700MHz		11400	49.93	-24.07	74	46.36	38.13	16.52	51.08	-	-	P	H
		17100	50.42	-17.88	68.3	43.53	42	18.41	53.52	-	-	P	H
		11400	49.83	-24.17	74	46.26	38.13	16.52	51.08	-	-	P	V
		17100	49.38	-18.92	68.3	42.49	42	18.41	53.52	-	-	P	V

- Remark**
- No other spurious found.
  - All results are PASS against Peak and Average limit line.



Sample 4

5470~5725MHz

WIFI 802.11a (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)
802.11a CH 140 5700MHz		5700	104.33	-	-	90.24	34.4	12.29	32.6	110	142	P	H
		5700	98.03	-	-	83.94	34.4	12.29	32.6	110	142	A	H
		5727	63.04	-5.26	68.3	48.87	34.47	12.3	32.6	110	142	P	H
		5700	101.4	-	-	87.31	34.4	12.29	32.6	369	204	P	V
		5700	95.33	-	-	81.24	34.4	12.29	32.6	369	204	A	V
		5725	62.58	-5.72	68.3	48.41	34.47	12.3	32.6	369	204	P	V

5470~5725MHz

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 140 5700MHz		11400	50.8	-23.2	74	47.23	38.13	16.52	51.08	-	-	P	H
		17100	51.28	-17.02	68.3	44.39	42	18.41	53.52	-	-	P	H
		11400	50.2	-23.8	74	46.63	38.13	16.52	51.08	-	-	P	V
		17100	50.47	-17.83	68.3	43.58	42	18.41	53.52	-	-	P	V

- Remark**
- No other spurious found.
  - All results are PASS against Peak and Average limit line.





<Simultaneous transmission>

5470~5725MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )
802.11a CH 140 5700MHz & LTE Band38	*	5700	105.15	-	-	91.06	34.4	12.29	32.6	117	151	P	H
		5700	98.46	-	-	84.37	34.4	12.29	32.6	117	151	A	H
		5725.48	65.64	-2.66	68.3	51.47	34.47	12.3	32.6	117	151	P	H
	*	5700	102.75	-	-	88.66	34.4	12.29	32.6	179	199	P	V
		5700	95.67	-	-	81.58	34.4	12.29	32.6	179	199	A	V
		5728.76	64.5	-3.8	68.3	50.33	34.47	12.3	32.6	179	199	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

5470~5725MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB/m )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )
802.11a CH 140 5700MHz & LTE Band38		5170	51	-17.3	68.3	37.31	34.07	12.16	32.54	-	-	P	H
		7759.5	50.29	-18.01	68.3	51.33	35.85	14.6	51.49	-	-	P	H
		10344.5	49.41	-18.89	68.3	47.76	37.38	15.31	51.04	-	-	P	H
		11400	50.23	-23.77	74	46.66	38.13	16.52	51.08	-	-	P	H
		17100	50.91	-17.39	68.3	44.02	42	18.41	53.52	-	-	P	H
		5170	50.05	-18.25	68.3	36.36	34.07	12.16	32.54	-	-	P	V
		7759.5	50.29	-18.01	68.3	51.33	35.85	14.6	51.49	-	-	P	V
		10344.5	49.89	-18.41	68.3	48.24	37.38	15.31	51.04	-	-	P	V
		11400	49.85	-24.15	74	46.28	38.13	16.52	51.08	-	-	P	V
		17100	50.07	-18.23	68.3	43.18	42	18.41	53.52	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average 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)

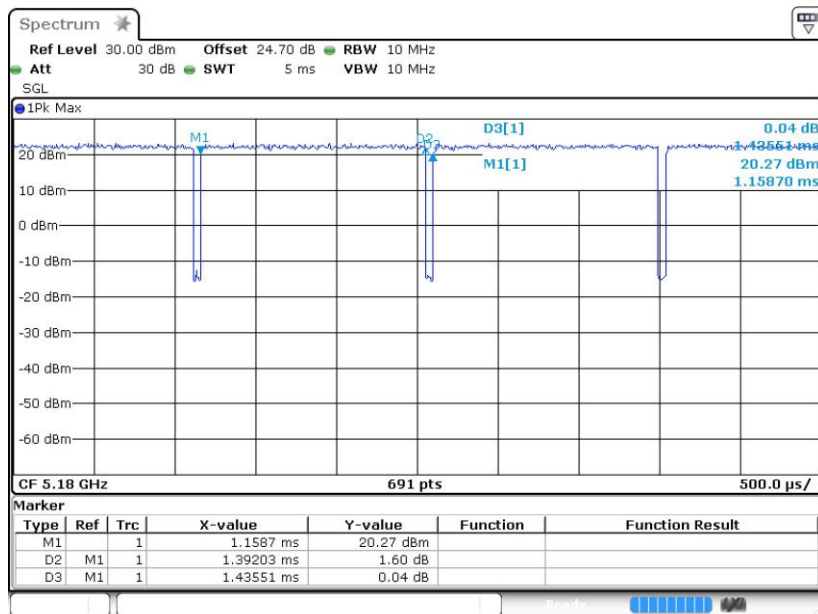
**Both peak and average measured complies with the limit line, so test result is “PASS”.**



## Appendix D. Duty Cycle Plots

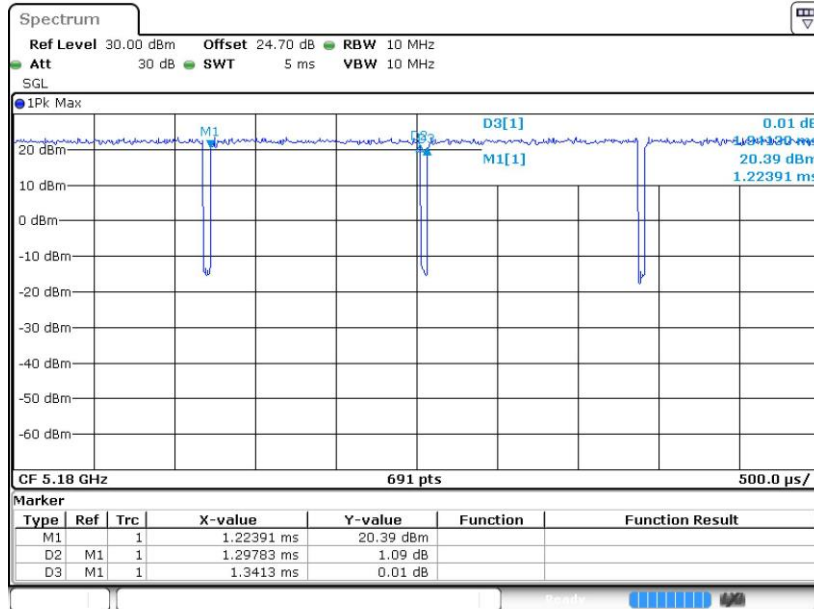
Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	96.97	1.392	0.718	1KHz
802.11n HT20	96.76	1.298	0.771	1KHz
802.11n HT40	93.30	0.646	1.549	3KHz
802.11ac VHT80	87.77	0.323	3.101	10KHZ

### 802.11a

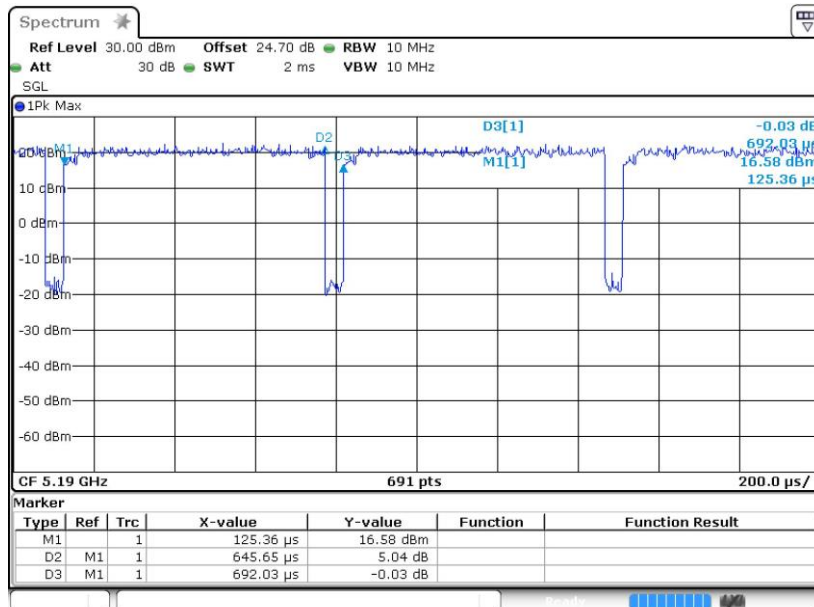




802.11n HT20



802.11n HT40





802.11ac VHT80

