



FCC RF Test Report

APPLICANT : Thundercomm Technology Co., Ltd
EQUIPMENT : Calculation Module
BRAND NAME : TurboX
MODEL NAME : C6125
FCC ID : 2AOHHTURBOXC6125
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure
TEST DATE(S) : Aug. 25, 2021 ~ Sep. 23, 2021

We, Sporton International (ShenZhen) Inc., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International (ShenZhen) Inc., the test report shall not be reproduced except in full.

Reviewed by: Derreck Chen / Supervisor

Approved by: Eric Shih / Manager



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People's Republic of China



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR180601D	Rev. 01	Initial issue of report	Sep. 27, 2021
FR180601D	Rev. 02	Add 26dB and 99% OBW graph in chapter 3.1.5	Oct. 08, 2021

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 0.21 dB at 5149.50 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 12.94 dB at 0.420 MHz
3.6	15.203 & 15.407(a)	Antenna Requirement	15.203 & 15.407(a)	Pass	-

Declaration of Conformity:

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

Comments and Explanations:

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



1 General Description

1.1 Applicant

Thundercomm Technology Co., Ltd

Building 4, No. 99, Data Valley Middle Road, Xiantao District, Yubei District Chongqing, China

1.2 Manufacturer

Thundercomm Technology Co., Ltd

Building 4, No. 99, Data Valley Middle Road, Xiantao District, Yubei District Chongqing, China

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Calculation Module
Brand Name	TurboX
Model Name	C6125
FCC ID	2AOHHTURBOXC6125
HW Version	DVT V03
SW Version	Turbox_C6125_LA1.0.FC.r001
EUT Stage	Identical Prototype

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

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency Range	5180 MHz ~ 5240 MHz 5260 MHz ~ 5320 MHz 5500 MHz ~ 5720 MHz
Maximum Output Power to Antenna	<5180 MHz ~ 5240 MHz> 802.11a : 15.44 dBm / 0.0350 W 802.11n HT20 : 15.31 dBm / 0.0340 W 802.11n HT40 : 14.41 dBm / 0.0276 W 802.11ac VHT20 : 13.47 dBm / 0.0222 W 802.11ac VHT40 : 15.31 dBm / 0.0340 W 802.11ac VHT80 : 11.91 dBm / 0.0155 W <5260 MHz ~ 5320 MHz> 802.11a : 15.08 dBm / 0.0322 W 802.11n HT20 : 15.51 dBm / 0.0356 W 802.11n HT40 : 14.25 dBm / 0.0266 W 802.11ac VHT20 : 13.49 dBm / 0.0223 W 802.11ac VHT40 : 15.01 dBm / 0.0317 W 802.11ac VHT80 : 12.35 dBm / 0.0172 W <5500 MHz ~ 5720 MHz> 802.11a : 15.58 dBm / 0.0361 W 802.11n HT20 : 15.46 dBm / 0.0352 W 802.11n HT40 : 14.49 dBm / 0.0281 W 802.11ac VHT20 : 13.50 dBm / 0.0224 W 802.11ac VHT40 : 15.43 dBm / 0.0349 W 802.11ac VHT80 : 15.43 dBm / 0.0349 W
99% Occupied Bandwidth	<5180 MHz ~ 5240 MHz> 802.11a : 16.88 MHz 802.11n HT20 : 17.98 MHz 802.11ac VHT40 : 36.56 MHz 802.11ac VHT80 : 75.52 MHz <5260 MHz ~ 5320 MHz> 802.11a : 16.83 MHz 802.11n HT20 : 17.98 MHz 802.11ac VHT40 : 36.66 MHz 802.11ac VHT80 : 75.64 MHz <5500 MHz ~ 5720 MHz > 802.11a : 16.83 MHz 802.11n HT20 : 17.93 MHz 802.11ac VHT40 : 36.66 MHz 802.11ac VHT80 : 75.76 MHz
Antenna Type / Gain	<5150 MHz ~ 5250 MHz> Dipole Antenna with gain 4.20 dBi <5250 MHz ~ 5350 MHz> Dipole Antenna with gain 4.25 dBi <5470 MHz ~ 5725 MHz> Dipole Antenna with gain 4.00 dBi
Type of Modulation	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 802.11n HT20 / ac VHT40 by referring to the maximum output power.



1.5 Modification of EUT

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

1.6 Testing Location

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

Test Firm	Sporton International (Shenzhen) Inc.		
Test Site Location	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		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	CO01-SZ TH01-SZ	CN1256	421272

Test Firm	Sporton International (Shenzhen) Inc.		
Test Site Location	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		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	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.

2 Test Configuration of Equipment Under Test

- a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane) were recorded in this report.
- b. AC power line Conducted Emission was tested under maximum output power.

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5150-5250 MHz U-NII-1	36	5180	44	5220
	38*	5190	46*	5230
	40	5200	48	5240
	42 [#]	5210		
Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5250-5350 MHz U-NII-2A	52	5260	60	5300
	54*	5270	62*	5310
	56	5280	64	5320
	58 [#]	5290		
Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5470-5725 MHz U-NII-2C	100	5500	112	5560
	102*	5510	116	5580
	104	5520	132	5660
	106 [#]	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 [#]	5610	128	5640

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
Straddle Channel	138 [#]	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 "[#]" 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
802.11ac VHT40	MCS0
802.11ac VHT80	MCS0

Test Cases	
AC Conducted Emission	Mode 1 : Bluetooth Link + WLAN(5G) Link + Powered by Adapter
Remark: For Radiated Test Cases, The tests were performance with Adapter	



Ch. #		U-NII-1 : 5150-5250 MHz	U-NII-2A : 5250-5350 MHz	U-NII-2C : 5470-5725MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle		-	-	144

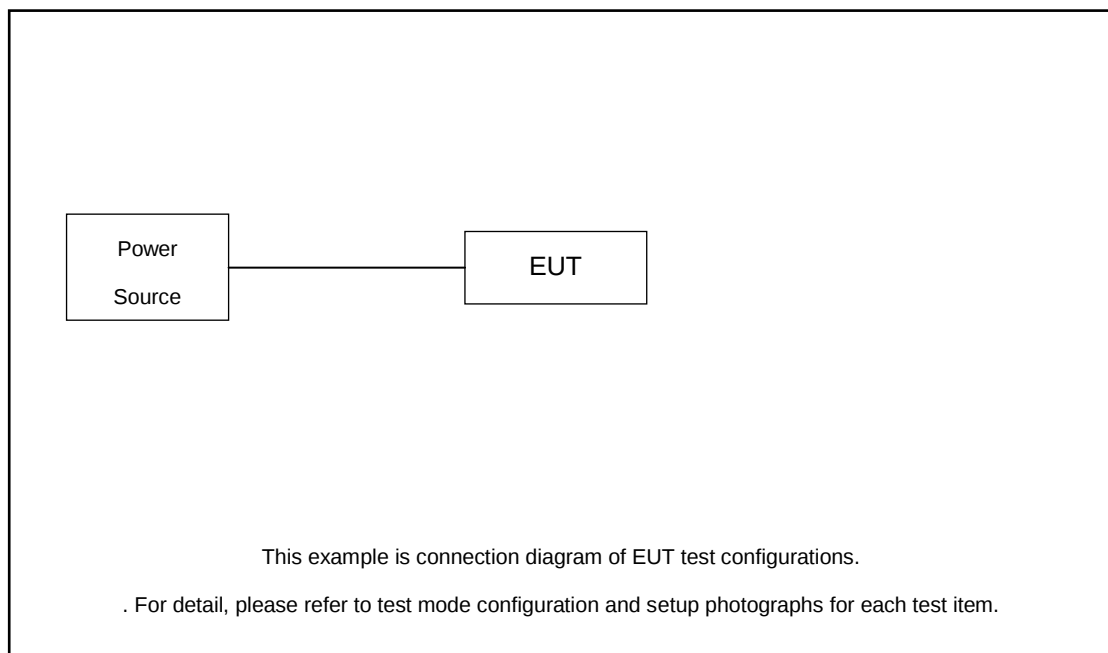
Ch. #		U-NII-1 : 5150-5250 MHz	U-NII-2A : 5250-5350 MHz	U-NII-2C : 5470-5725MHz
		802.11n HT20	802.11n HT20	802.11n HT20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle		-	-	144

Ch. #		U-NII-1 : 5150-5250 MHz	U-NII-2A : 5250-5350 MHz	U-NII-2C : 5470-5725MHz
		802.11ac VHT40	802.11ac VHT40	802.11ac VHT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134
Straddle		-	-	142

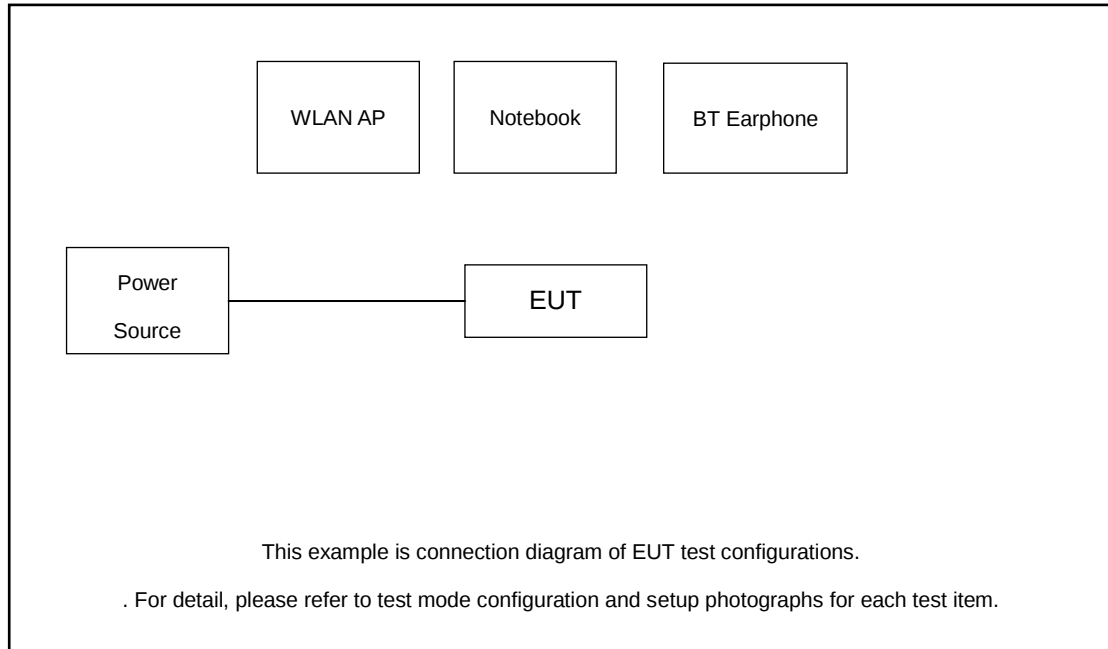
Ch. #		U-NII-1 : 5150-5250 MHz	U-NII-2A : 5250-5350 MHz	U-NII-2C : 5470-5725MHz
		802.11ac VHT80	802.11ac VHT80	802.11ac VHT80
L	Low	-	-	106
M	Middle	42	58	-
H	High	-	-	122
Straddle		-	-	138

2.3 Connection Diagram of Test System

<For Radiated Emission >



<For 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.	Bluetooth Earphone	Samsung	MG900	N/A	N/A	N/A

2.5 EUT Operation Test Setup

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

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.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 2.8 dB and 10dB attenuator.

$$\begin{aligned}\text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)} \\ &= 2.8 + 10 = 12.8 \text{ (dB)}\end{aligned}$$

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.

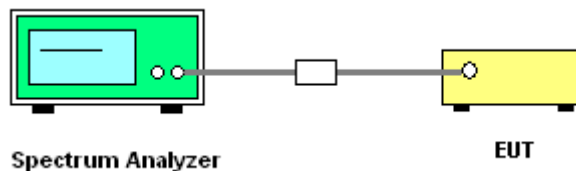
3.1.2 Measuring Instruments

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) $\geq 3 * \text{RBW}$.
8. Measure and record the results in the test report.

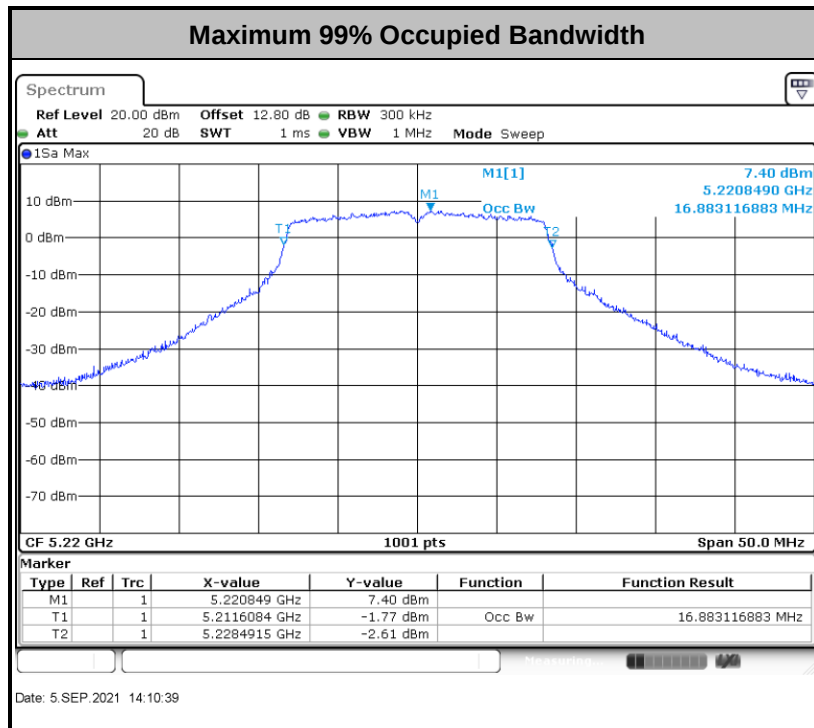
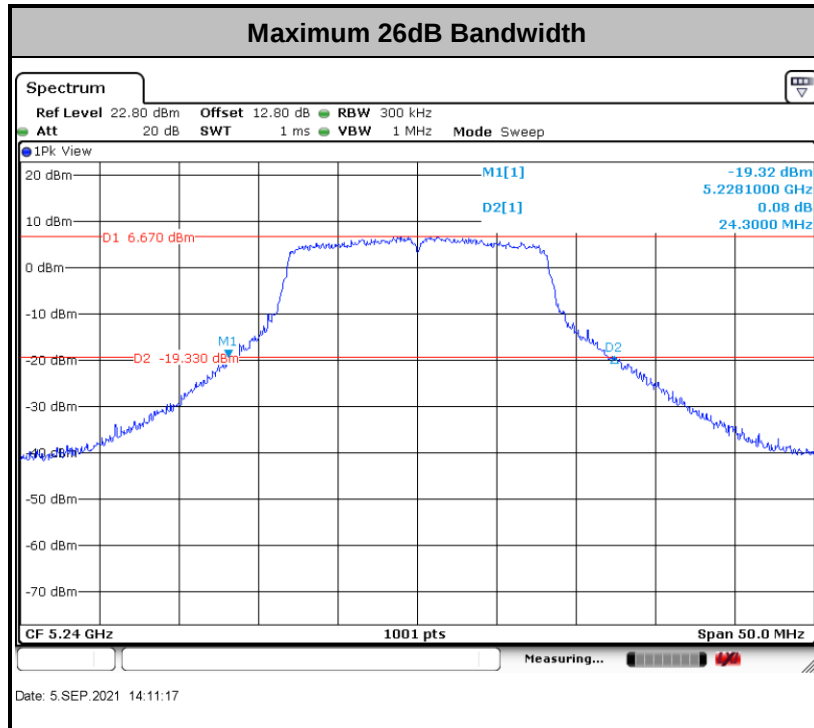
3.1.4 Test Setup



3.1.5 Test Result of 26dB & 99% Occupied Bandwidth

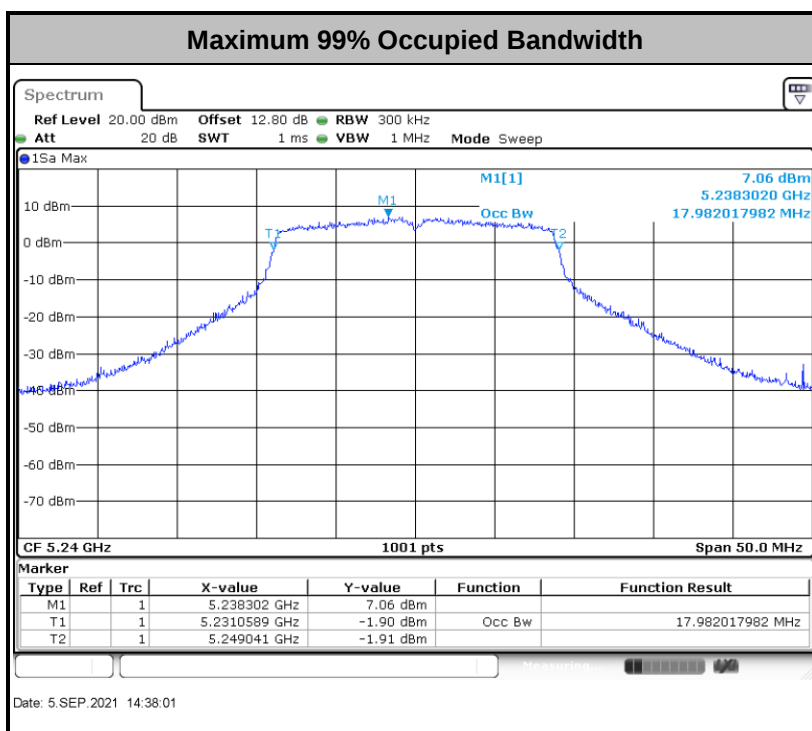
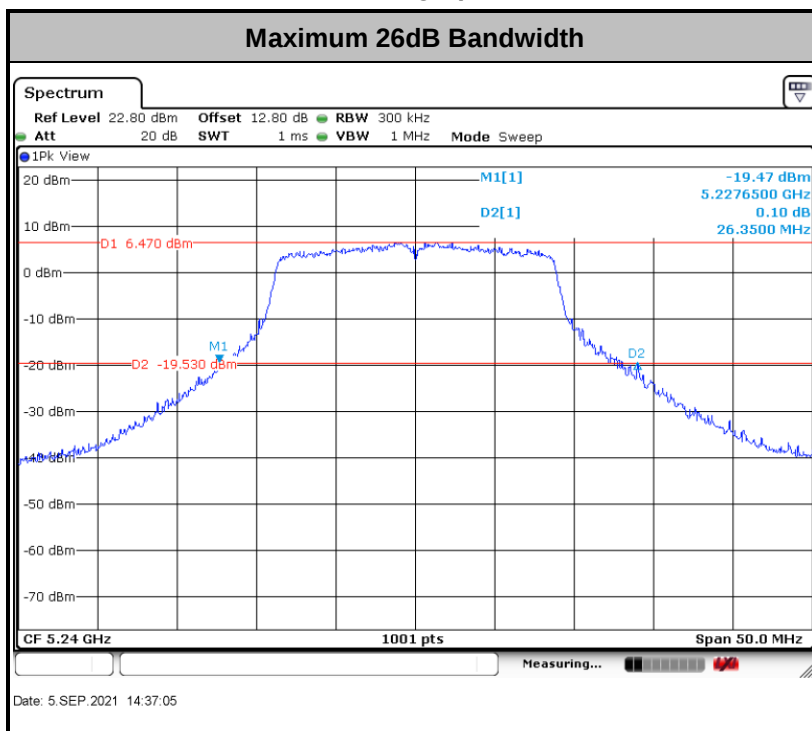
Please refer to Appendix A.

26dB and 99% OBW graph of 11a mode

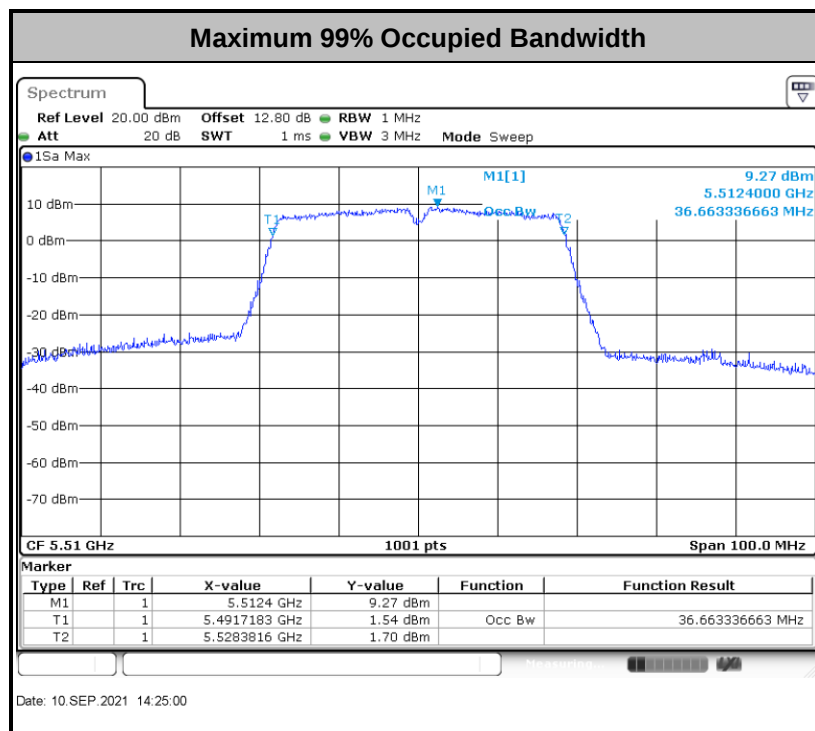
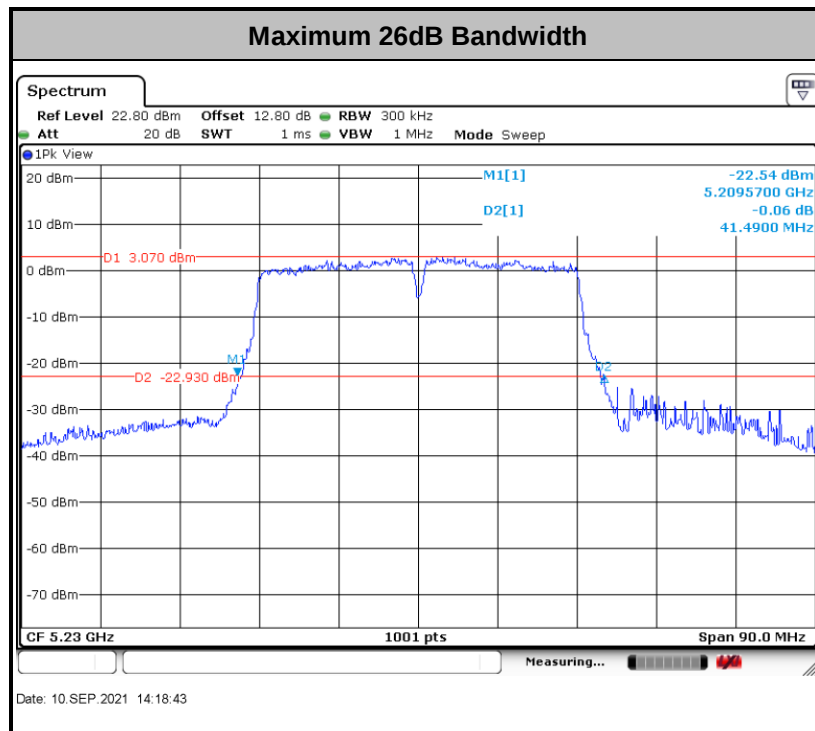


Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

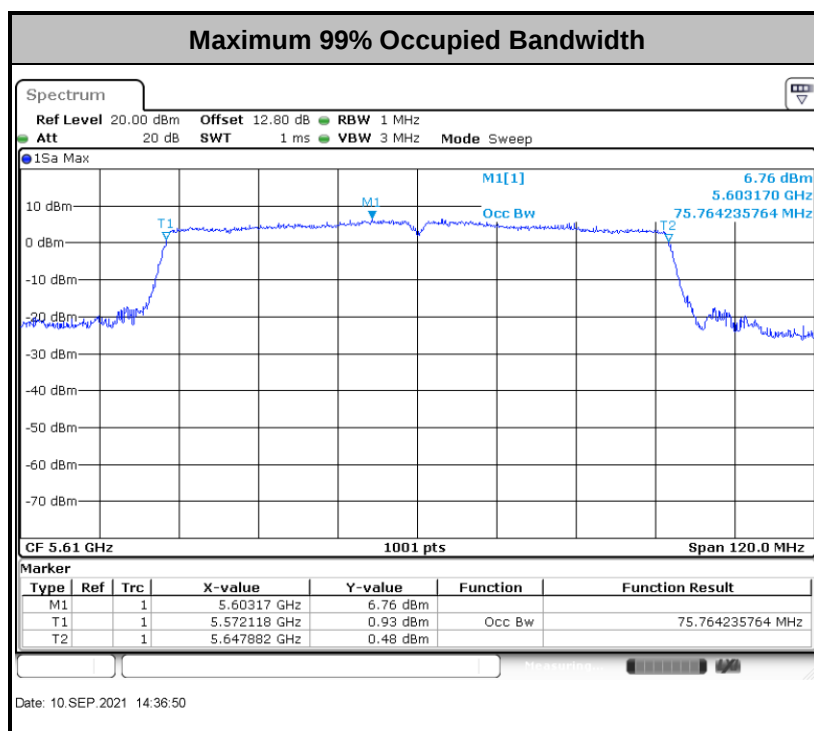
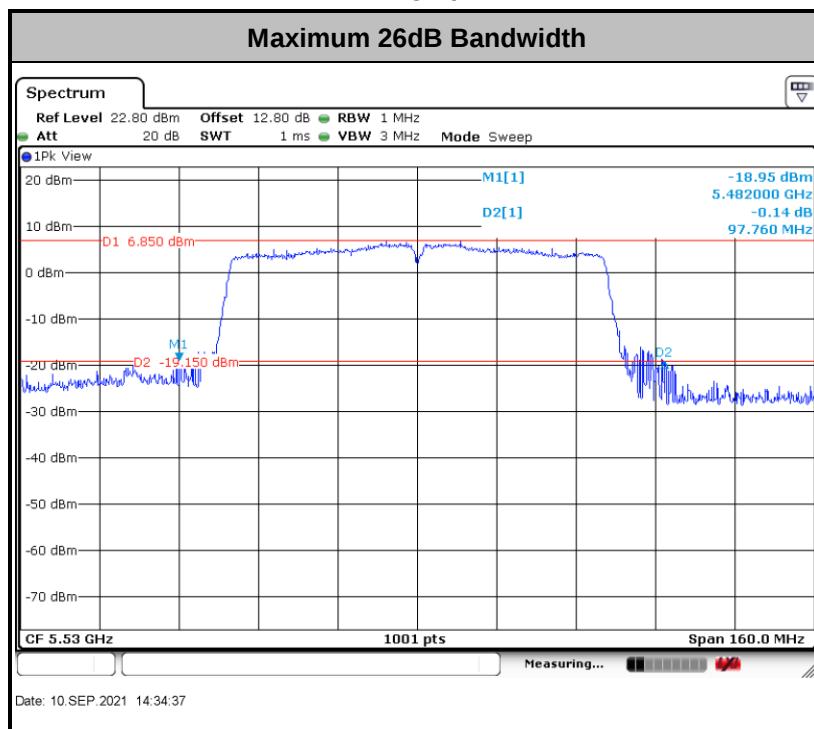
26dB and 99% OBW graph of HT20 mode



Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

26dB and 99% OBW graph of VHT40 mode


Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

26dB and 99% OBW graph of VHT80 mode


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 the 5.47–5.6 GHz and 5.65–5.725 GHz band, the maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10} B$, dBm, whichever power is less. The maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log_{10} B$, dBm, whichever is less. B is the 99% 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

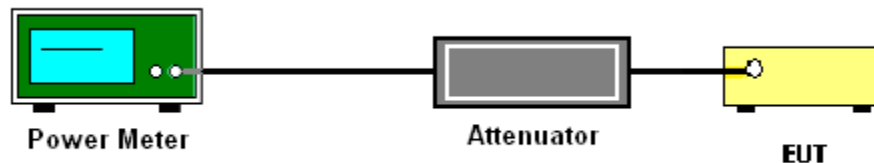
The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

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.

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.

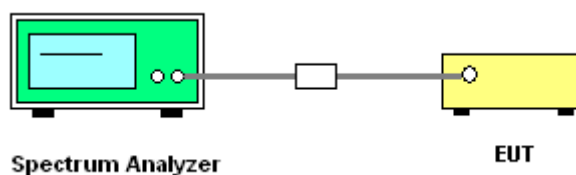
Section F) Maximum power spectral density.

Method SA-2

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

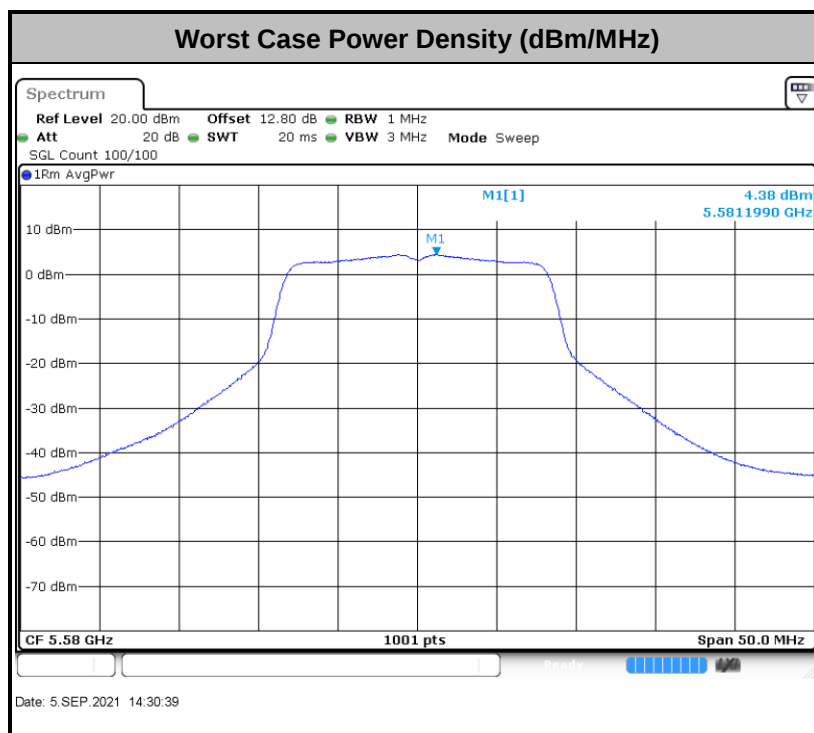
- Measure the duty cycle.
 - Set span to encompass the entire emission bandwidth (EBW) of the signal.
 - Set RBW = 1 MHz.
 - Set VBW $\geq$ 3 MHz.
 - Number of points in sweep $\geq$ 2 Span / RBW.
 - Sweep time = auto.
 - Detector = RMS
 - Trace average at least 100 traces in power averaging mode.
 - 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	$2400/F(\text{kHz})$	300
0.490 – 1.705	$24000/F(\text{kHz})$	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	68.2

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

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

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

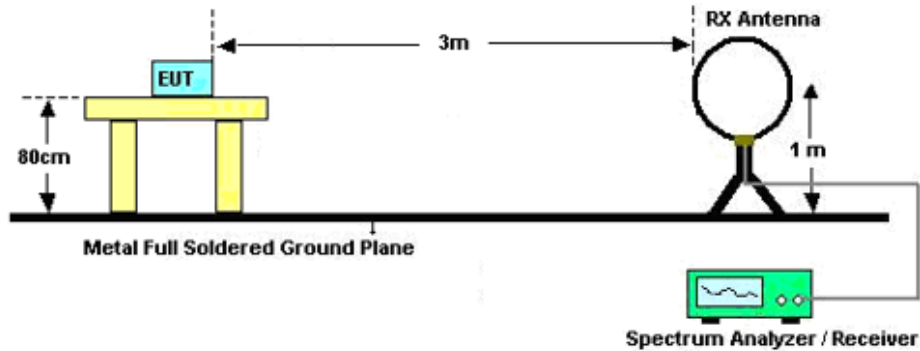
The measuring equipment is listed in the section 4 of this test report.

3.4.3 Test Procedures

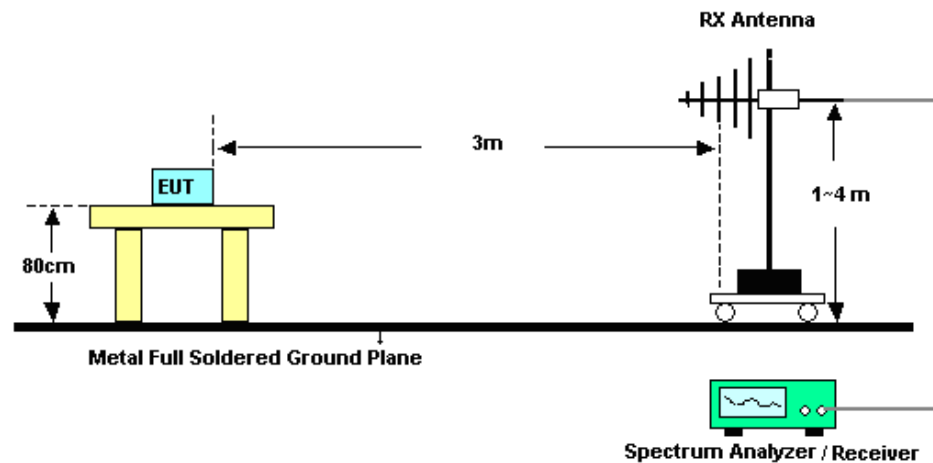
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
Section G) Unwanted emissions measurement.
 - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold
 - (2) Procedure for Peak 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

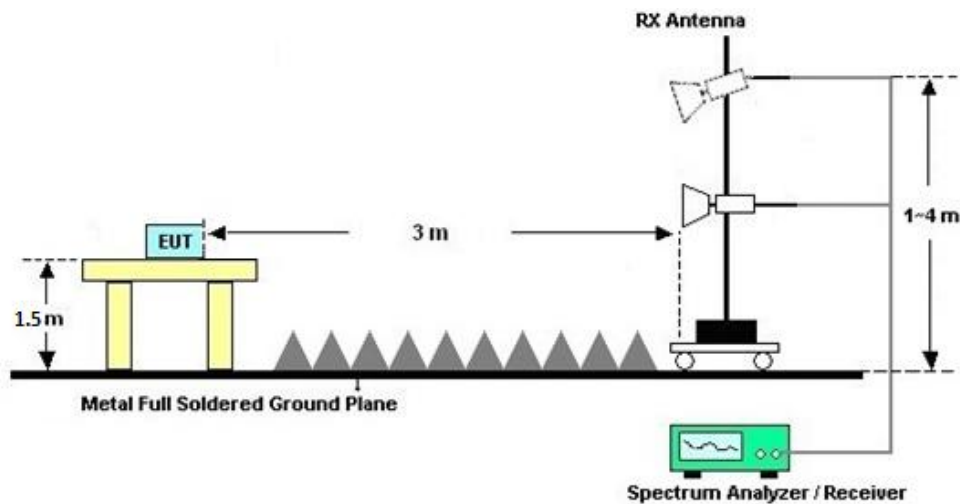
For radiated emissions below 30MHz



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 (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

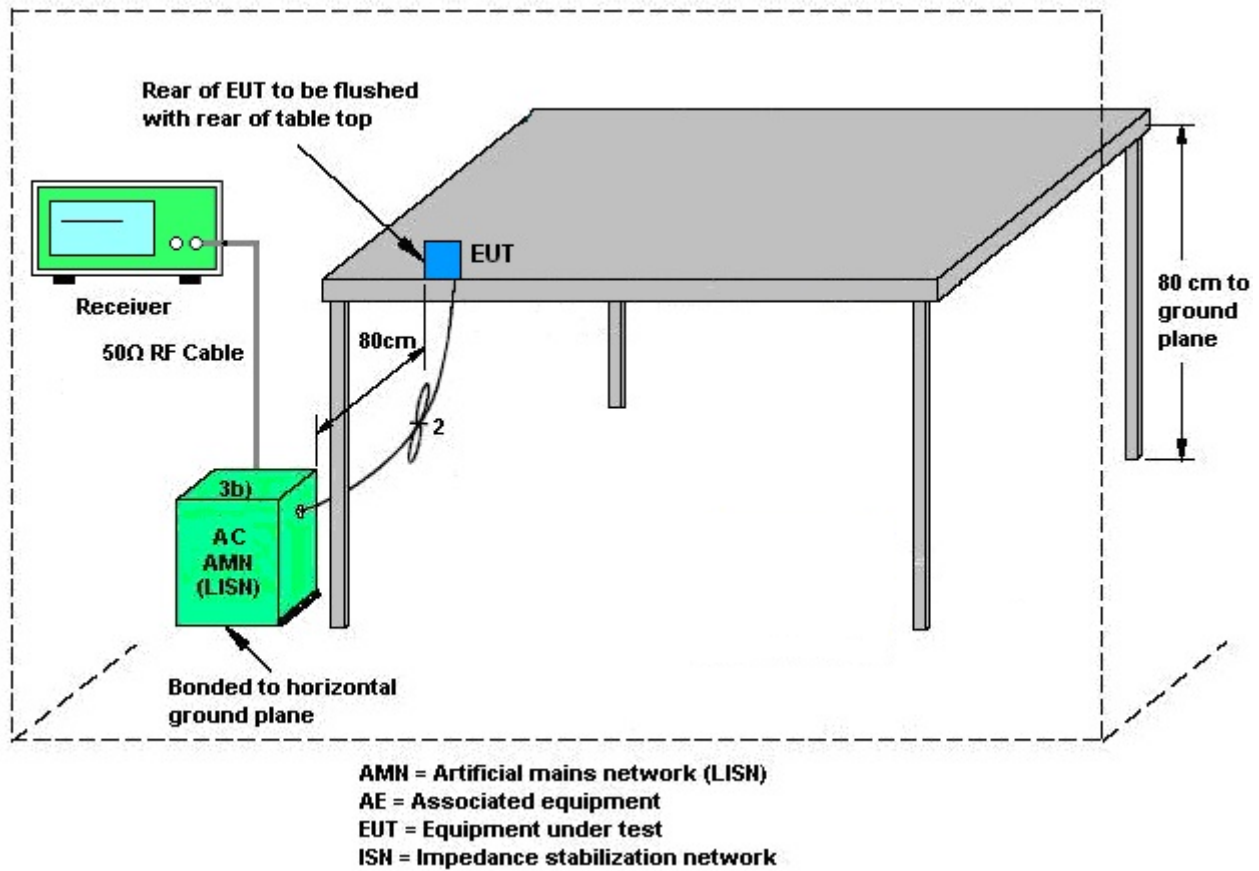
3.5.2 Measuring Instruments

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

Non-standard antenna connector 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	Aug. 25, 2021~ Sep. 10, 2021	Apr. 07, 2022	Conducted (TH01-SZ)
Pulse Power Sensor	Anritsu	MA2411B	1207253	30MHz~40GHz	Dec. 25, 2020	Aug. 25, 2021~ Sep. 10, 2021	Dec. 24, 2021	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	50MHz Bandwidth	Dec. 25, 2020	Aug. 25, 2021~ Sep. 10, 2021	Dec. 24, 2021	Conducted (TH01-SZ)
EMI Test Receiver&SA	Agilent	N9038A	MY52260185	20Hz~26.5GHz	Dec. 03, 2020	Sep. 23, 2021	Dec. 02, 2021	Radiation (03CH01-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 21, 2021	Sep. 23, 2021	Jul. 20, 2022	Radiation (03CH01-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jun. 22, 2020	Sep. 23, 2021	Jun. 21, 2022	Radiation (03CH01-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz~2GHz	Jul. 15, 2021	Sep. 23, 2021	Jul. 14, 2022	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 25, 2021	Sep. 23, 2021	Jul. 24, 2022	Radiation (03CH01-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18GHz~40GHz	Apr. 11, 2021	Sep. 23, 2021	Apr. 10, 2022	Radiation (03CH01-SZ)
LF Amplifier	Burgeon	BPA-530	102209	0.01~3000Mhz	Apr. 07, 2021	Sep. 23, 2021	Apr. 06, 2022	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	AMF-7D-0010 1800-30-10P-R	1943528	1GHz~18GHz	Oct. 16, 2020	Sep. 23, 2021	Oct. 15, 2021	Radiation (03CH01-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270105	0.5GHz~26.5GHz	Oct. 16, 2020	Sep. 23, 2021	Oct. 15, 2021	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 21, 2021	Sep. 23, 2021	Jul. 20, 2022	Radiation (03CH01-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	NCR	Sep. 23, 2021	NCR	Radiation (03CH01-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Sep. 23, 2021	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Sep. 23, 2021	NCR	Radiation (03CH01-SZ)
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Mar. 08, 2021	Sep. 06, 2021	Mar. 07, 2022	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2 LISN	00103912	9kHz~30MHz	Dec. 25, 2020	Sep. 06, 2021	Dec. 24, 2021	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Oct. 15, 2020	Sep. 06, 2021	Oct. 14, 2021	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Jul. 14, 2021	Sep. 06, 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% ($U = 2Uc(y)$)	2.2dB
---	-------

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

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

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

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

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



Appendix A. Conducted Test Results

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Chen Hong	Temperature:	21~25	°C
Test Date:	2021/8/25~2021/9/10	Relative Humidity:	51~54	%

TEST RESULTS DATA
26dB and 99% OBW

U-NII-1										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)		
11a	6Mbps	1	36	5180	16.78	24.15	-	22.25		
11a	6Mbps	1	44	5220	16.88	23.85	-	22.27		
11a	6Mbps	1	48	5240	16.78	24.30	-	22.25		
HT20	MCS0	1	36	5180	17.93	24.20	-	22.54		
HT20	MCS0	1	44	5220	17.93	24.05	-	22.54		
HT20	MCS0	1	48	5240	17.98	26.35	-	22.55		
VHT40	MCS0	1	38	5190	36.56	41.13	-	23.01		
VHT40	MCS0	1	46	5230	36.46	41.49	-	23.01		
VHT80	MCS0	1	42	5210	75.52	93.76	-	23.01		

TEST RESULTS DATA
Average Power Table

U-NII-1										
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	0.08	15.30	24.00	4.20		Pass
11a	6Mbps	1	44	5220	0.08	15.39	24.00	4.20		Pass
11a	6Mbps	1	48	5240	0.08	15.44	24.00	4.20		Pass
HT20	MCS0	1	36	5180	0.10	15.16	24.00	4.20		Pass
HT20	MCS0	1	44	5220	0.10	15.26	24.00	4.20		Pass
HT20	MCS0	1	48	5240	0.10	15.31	24.00	4.20		Pass
HT40	MCS0	1	38	5190	0.17	12.85	24.00	4.20		Pass
HT40	MCS0	1	46	5230	0.17	14.41	24.00	4.20		Pass
VHT20	MCS0	1	36	5180	0.10	13.47	24.00	4.20		Pass
VHT20	MCS0	1	44	5220	0.10	13.11	24.00	4.20		Pass
VHT20	MCS0	1	48	5240	0.10	13.29	24.00	4.20		Pass
VHT40	MCS0	1	38	5190	0.17	12.91	24.00	4.20		Pass
VHT40	MCS0	1	46	5230	0.17	15.31	24.00	4.20		Pass
VHT80	MCS0	1	42	5210	0.32	11.91	24.00	4.20		Pass

TEST RESULTS DATA
Power Spectral Density

U-NII-1										
Mod.	Data Rate	NTX	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	0.08	4.27	11.00	4.20		Pass
11a	6Mbps	1	44	5220	0.08	4.26	11.00	4.20		Pass
11a	6Mbps	1	48	5240	0.08	4.13	11.00	4.20		Pass
HT20	MCS0	1	36	5180	0.10	3.92	11.00	4.20		Pass
HT20	MCS0	1	44	5220	0.10	3.84	11.00	4.20		Pass
HT20	MCS0	1	48	5240	0.10	3.77	11.00	4.20		Pass
VHT40	MCS0	1	38	5190	0.17	0.50	11.00	4.20		Pass
VHT40	MCS0	1	46	5230	0.17	0.46	11.00	4.20		Pass
VHT80	MCS0	1	42	5210	0.32	-2.41	11.00	4.20		Pass

TEST RESULTS DATA
26dB and 99% OBW

U-NII-2A										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)	FCC 26dB Bandwidth Power Limit (dBm)	Note
11a	6M bps	1	52	5260	16.83	23.70	23.26	29.26	23.98	
11a	6M bps	1	60	5300	16.83	23.65	23.26	29.26	23.98	
11a	6M bps	1	64	5320	16.78	23.50	23.25	29.25	23.98	
HT20	MCS 0	1	52	5260	17.98	25.00	23.55	29.55	23.98	
HT20	MCS 0	1	60	5300	17.93	24.45	23.54	29.54	23.98	
HT20	MCS 0	1	64	5320	17.93	24.25	23.54	29.54	23.98	
VHT40	MCS 0	1	54	5270	36.56	41.40	23.98	30.00	23.98	
VHT40	MCS 0	1	62	5310	36.66	41.13	23.98	30.00	23.98	
VHT80	MCS 0	1	58	5290	75.64	95.20	23.98	30.00	23.98	

TEST RESULTS DATA
Average Power Table

U-NII-2A										
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	0.08	15.06	23.98	4.25	30.00	Pass
11a	6M bps	1	60	5300	0.08	15.08	23.98	4.25	30.00	Pass
11a	6M bps	1	64	5320	0.08	15.05	23.98	4.25	30.00	Pass
HT20	MCS 0	1	52	5260	0.10	15.46	23.98	4.25	30.00	Pass
HT20	MCS 0	1	60	5300	0.10	15.51	23.98	4.25	30.00	Pass
HT20	MCS 0	1	64	5320	0.10	15.29	23.98	4.25	30.00	Pass
HT40	MCS 0	1	54	5270	0.17	14.22	23.98	4.25	30.00	Pass
HT40	MCS 0	1	62	5310	0.17	14.25	23.98	4.25	30.00	Pass
VHT20	MCS 0	1	52	5260	0.10	13.45	23.98	4.25	30.00	Pass
VHT20	MCS 0	1	60	5300	0.10	13.49	23.98	4.25	30.00	Pass
VHT20	MCS 0	1	64	5320	0.10	13.45	23.98	4.25	30.00	Pass
VHT40	MCS 0	1	54	5270	0.17	15.01	23.98	4.25	30.00	Pass
VHT40	MCS 0	1	62	5310	0.17	14.28	23.98	4.25	30.00	Pass
VHT80	MCS 0	1	58	5290	0.32	12.35	23.98	4.25	30.00	Pass

TEST RESULTS DATA
Power Spectral Density

U-NII-2A										
Mod.	Data Rate	NTX	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	0.08	3.68	11.00	4.25		Pass
11a	6M bps	1	60	5300	0.08	3.75	11.00	4.25		Pass
11a	6M bps	1	64	5320	0.08	3.65	11.00	4.25		Pass
HT20	MCS 0	1	52	5260	0.10	3.76	11.00	4.25		Pass
HT20	MCS 0	1	60	5300	0.10	3.78	11.00	4.25		Pass
HT20	MCS 0	1	64	5320	0.10	3.66	11.00	4.25		Pass
VHT40	MCS 0	1	54	5270	0.17	0.21	11.00	4.25		Pass
VHT40	MCS 0	1	62	5310	0.17	0.12	11.00	4.25		Pass
VHT80	MCS 0	1	58	5290	0.32	-2.78	11.00	4.25		Pass

TEST RESULTS DATA
26dB and 99% OBW

U-NII-2C										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)	FCC 26dB Bandwidth Power Limit (dBm)	Note
11a	6M bps	1	100	5500	16.83	24.15	23.26	29.26	23.98	
11a	6M bps	1	116	5580	16.78	23.20	23.25	29.25	23.98	
11a	6M bps	1	140	5700	16.78	23.40	23.25	29.25	23.98	
11a	6Mbps	1	144	5720	16.78	23.55	23.25	29.25	23.98	
HT20	MCS 0	1	100	5500	17.93	25.15	23.54	29.54	23.98	
HT20	MCS 0	1	116	5580	17.88	25.00	23.52	29.52	23.98	
HT20	MCS 0	1	140	5700	17.88	25.15	23.52	29.52	23.98	
HT20	MCS0	1	144	5720	17.93	24.50	23.54	29.54	23.98	
VHT40	MCS 0	1	102	5510	36.66	40.86	23.98	30.00	23.98	
VHT40	MCS 0	1	110	5550	36.56	41.22	23.98	30.00	23.98	
VHT40	MCS 0	1	134	5670	36.56	40.68	23.98	30.00	23.98	
VHT40	MCS0	1	142	5710	36.56	41.40	23.98	30.00	23.98	
VHT80	MCS 0	1	106	5530	75.64	97.76	23.98	30.00	23.98	
VHT80	MCS 0	1	122	5610	75.76	93.92	23.98	30.00	23.98	
VHT80	MCS0	1	138	5690	75.64	91.52	23.98	30.00	23.98	

TEST RESULTS DATA
Average Power Table

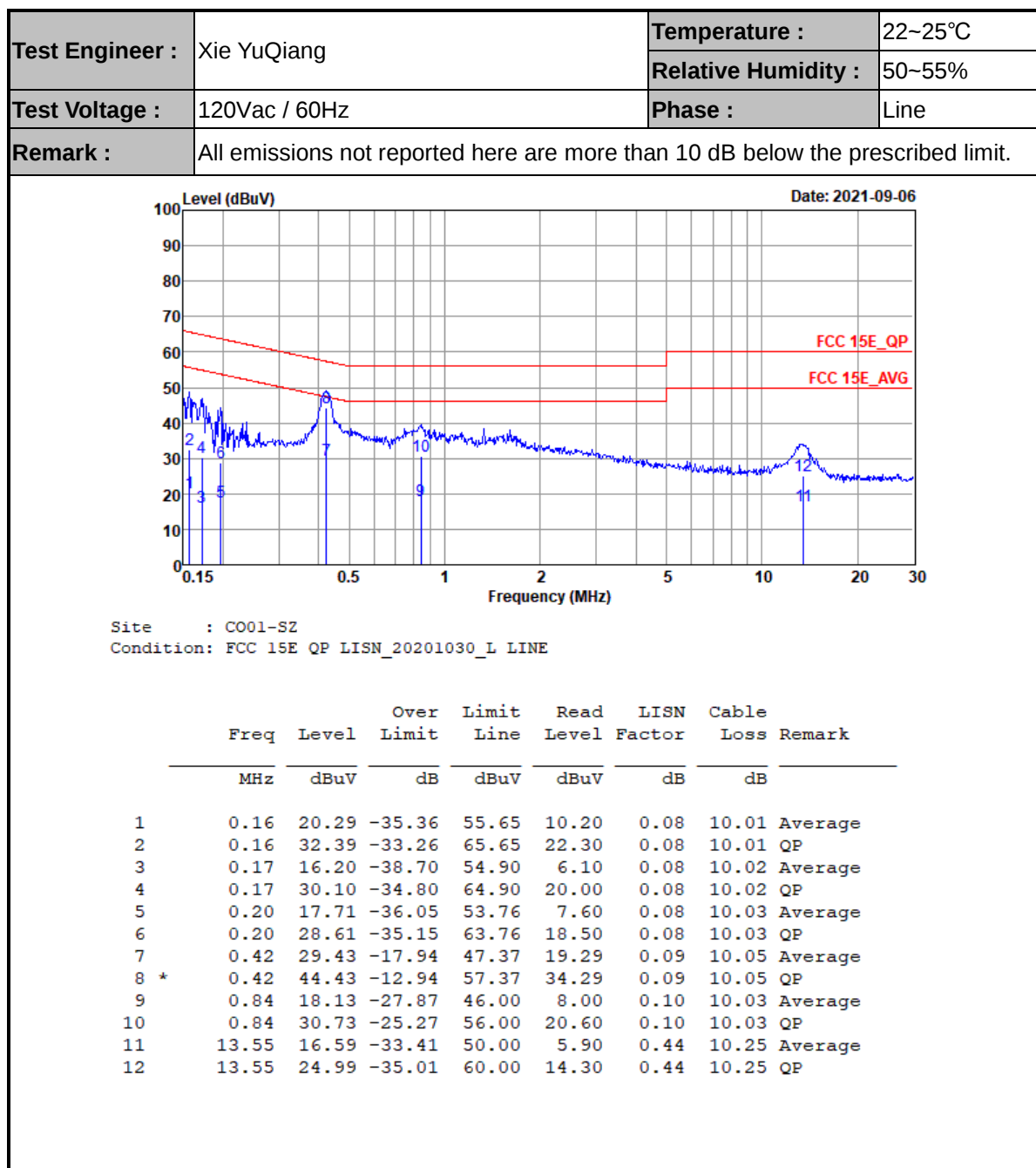
U-NII-2C										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6M bps	1	100	5500	0.08	15.00	23.98	4.00	30.00	Pass
11a	6M bps	1	116	5580	0.08	15.54	23.98	4.00	30.00	Pass
11a	6M bps	1	140	5700	0.08	15.46	23.98	4.00	30.00	Pass
11a	6M bps	1	144	5720	0.08	15.58	23.98	4.00	30.00	Pass
HT20	MCS 0	1	100	5500	0.10	15.30	23.98	4.00	30.00	Pass
HT20	MCS 0	1	116	5580	0.10	15.42	23.98	4.00	30.00	Pass
HT20	MCS 0	1	140	5700	0.10	15.33	23.98	4.00	30.00	Pass
HT20	MCS 0	1	144	5720	0.10	15.46	23.98	4.00	30.00	Pass
HT40	MCS 0	1	102	5510	0.17	14.11	23.98	4.00	30.00	Pass
HT40	MCS 0	1	110	5550	0.17	14.49	23.98	4.00	30.00	Pass
HT40	MCS 0	1	134	5670	0.17	14.17	23.98	4.00	30.00	Pass
HT40	MCS 0	1	142	5710	0.17	14.25	23.98	4.00	30.00	Pass
VHT20	MCS 0	1	100	5500	0.10	13.34	23.98	4.00	30.00	Pass
VHT20	MCS 0	1	116	5580	0.10	13.48	23.98	4.00	30.00	Pass
VHT20	MCS 0	1	140	5700	0.10	13.50	23.98	4.00	30.00	Pass
VHT20	MCS 0	1	144	5720	0.10	13.08	23.98	4.00	30.00	Pass
VHT40	MCS 0	1	102	5510	0.17	14.16	23.98	4.00	30.00	Pass
VHT40	MCS 0	1	110	5550	0.17	15.38	23.98	4.00	30.00	Pass
VHT40	MCS 0	1	134	5670	0.17	15.43	23.98	4.00	30.00	Pass
VHT40	MCS 0	1	142	5710	0.17	15.32	23.98	4.00	30.00	Pass
VHT80	MCS 0	1	106	5530	0.32	12.44	23.98	4.00	30.00	Pass
VHT80	MCS 0	1	122	5610	0.32	15.43	23.98	4.00	30.00	Pass
VHT80	MCS 0	1	138	5690	0.32	15.09	23.98	4.00	30.00	Pass

TEST RESULTS DATA
Power Spectral Density

U-NII-2C										
Mod.	Data Rate	NTX	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	0.08	4.09	11.00	4.00		Pass
11a	6M bps	1	116	5580	0.08	4.46	11.00	4.00		Pass
11a	6M bps	1	140	5700	0.08	4.08	11.00	4.00		Pass
11a	6Mbps	1	144	5720	0.08	4.16	11.00	4.00		Pass
HT20	MCS 0	1	100	5500	0.10	4.05	11.00	4.00		Pass
HT20	MCS 0	1	116	5580	0.10	4.05	11.00	4.00		Pass
HT20	MCS 0	1	140	5700	0.10	3.84	11.00	4.00		Pass
HT20	MCS0	1	144	5720	0.10	3.85	11.00	4.00		Pass
VHT40	MCS 0	1	102	5510	0.17	0.57	11.00	4.00		Pass
VHT40	MCS 0	1	110	5550	0.17	0.87	11.00	4.00		Pass
VHT40	MCS 0	1	134	5670	0.17	0.76	11.00	4.00		Pass
VHT40	MCS0	1	142	5710	0.17	0.57	11.00	4.00		Pass
VHT80	MCS 0	1	106	5530	0.32	-2.17	11.00	4.00		Pass
VHT80	MCS 0	1	122	5610	0.32	-2.30	11.00	4.00		Pass
VHT80	MCS0	1	138	5690	0.32	-2.67	11.00	4.00		Pass

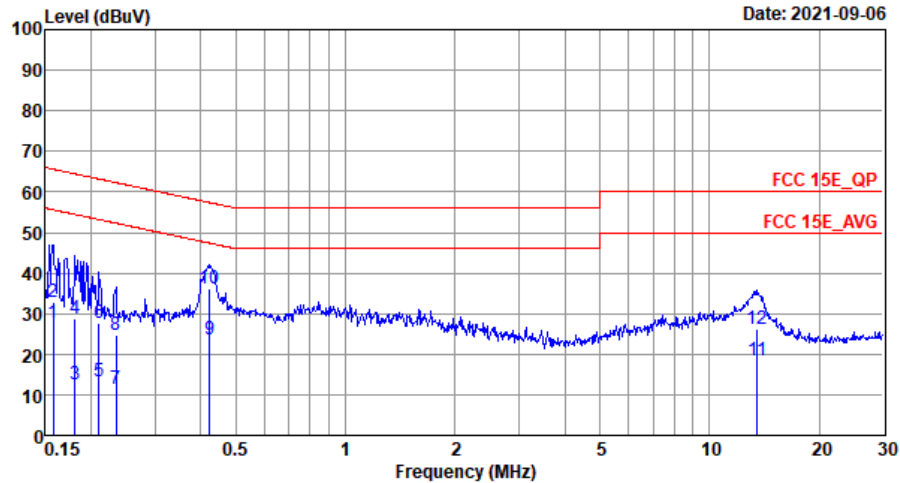


Appendix B. AC Conducted Emission Test Results





Test Engineer :	Xie YuQiang	Temperature :	22~25°C
		Relative Humidity :	50~55%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-SZ
Condition: FCC 15E_QP LISN_20201030_N NEUTRAL

	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.16	27.49	-28.11	55.60	17.40	0.08	10.01	Average
2	0.16	32.99	-32.61	65.60	22.90	0.08	10.01	QP
3	0.18	12.50	-41.96	54.46	2.40	0.08	10.02	Average
4	0.18	28.70	-35.76	64.46	18.60	0.08	10.02	QP
5	0.21	13.10	-40.08	53.18	3.00	0.07	10.03	Average
6	0.21	27.60	-35.58	63.18	17.50	0.07	10.03	QP
7	0.23	11.29	-41.01	52.30	1.21	0.05	10.03	Average
8	0.23	24.69	-37.61	62.30	14.61	0.05	10.03	QP
9	0.42	23.63	-23.74	47.37	13.49	0.09	10.05	Average
10 *	0.42	36.33	-21.04	57.37	26.19	0.09	10.05	QP
11	13.55	18.39	-31.61	50.00	7.70	0.44	10.25	Average
12	13.55	26.29	-33.71	60.00	15.60	0.44	10.25	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

Test Engineer :	Zhao hui Liang	Temperature :	24~25 °C
		Relative Humidity :	48~49%

U-NII-1 - 5150~5250MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable 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		5148.72	57.81	-16.19	74	44.19	34	12.15	32.53	388	88	P	H
		5150	48.66	-5.34	54	35.04	34	12.15	32.53	388	88	A	H
		5180	110.5	-	-	96.75	34.13	12.16	32.54	388	88	P	H
		5180	104.35	-	-	90.6	34.13	12.16	32.54	388	88	A	H
		5041.86	53.06	-20.94	74	39.65	33.8	12.12	32.51	388	351	P	V
		5150	44.71	-9.29	54	31.09	34	12.15	32.53	388	351	A	V
		5180	105.47	-	-	91.72	34.13	12.16	32.54	388	351	P	V
		5180	99.45	-	-	85.7	34.13	12.16	32.54	388	351	A	V
802.11a CH 44 5220MHz		5083.2	53.25	-20.75	74	39.77	33.87	12.13	32.52	386	85	P	H
		5150	43.89	-10.11	54	30.27	34	12.15	32.53	386	85	A	H
		5220	112.19	-	-	98.34	34.23	12.17	32.55	386	85	P	H
		5220	106.1	-	-	92.25	34.23	12.17	32.55	386	85	A	H
		5419.2	51.97	-22.03	74	37.92	34.4	12.23	32.58	386	85	P	H
		5459.28	42.34	-11.66	54	28.29	34.4	12.24	32.59	386	85	A	H
		5096.2	53.93	-20.07	74	40.41	33.9	12.14	32.52	385	344	P	V
		5125.32	43.36	-10.64	54	29.77	33.97	12.15	32.53	385	344	A	V
		5220	105.34	-	-	91.49	34.23	12.17	32.55	385	344	P	V
		5220	99.25	-	-	85.4	34.23	12.17	32.55	385	344	A	V
		5370.72	51.76	-22.24	74	37.72	34.4	12.21	32.57	385	344	P	V
		5456.88	42.31	-11.69	54	28.26	34.4	12.24	32.59	385	344	A	V



802.11a CH 48 5240MHz		5069.16	52.74	-21.26	74	39.3	33.83	12.13	32.52	382	67	P	H
		5150	43.46	-10.54	54	29.84	34	12.15	32.53	382	67	A	H
		5240	112.3	-	-	98.4	34.27	12.18	32.55	382	67	P	H
		5240	106.15	-	-	92.25	34.27	12.18	32.55	382	67	A	H
		5403.6	52.58	-21.42	74	38.54	34.4	12.22	32.58	382	67	P	H
		5351.04	42.53	-11.47	54	28.49	34.4	12.21	32.57	382	67	A	H
		5009.88	52.46	-21.54	74	39.05	33.8	12.11	32.5	383	343	P	V
		5125.58	43.3	-10.7	54	29.71	33.97	12.15	32.53	383	343	A	V
		5240	105.31	-	-	91.41	34.27	12.18	32.55	383	343	P	V
		5240	99.31	-	-	85.41	34.27	12.18	32.55	383	343	A	V
		5384.16	51.79	-22.21	74	37.75	34.4	12.22	32.58	383	343	P	V
		5458.56	42.31	-11.69	54	28.26	34.4	12.24	32.59	383	343	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-1 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 36 5180MHz		10360	51.27	-17.03	68.3	30.73	37.39	15.31	32.16	-	-	P	H
		15540	50.3	-23.7	74	26.28	40.08	17.76	33.82	-	-	P	H
		10360	50.98	-17.32	68.3	30.44	37.39	15.31	32.16	-	-	P	V
		15540	50.1	-23.9	74	26.08	40.08	17.76	33.82	-	-	P	V
802.11a CH 44 5220MHz		10440	51.92	-16.38	68.3	31.28	37.45	15.32	32.13	-	-	P	H
		15660	50.45	-23.55	74	26.36	40.19	17.83	33.93	-	-	P	H
		10440	50.21	-18.09	68.3	29.57	37.45	15.32	32.13	-	-	P	V
		15660	50.16	-23.84	74	26.07	40.19	17.83	33.93	-	-	P	V
802.11a CH 48 5240MHz		10480	50.29	-18.01	68.3	29.59	37.49	15.32	32.11	-	-	P	H
		15720	50.58	-23.42	74	26.43	40.25	17.87	33.97	-	-	P	H
		10480	49.7	-18.6	68.3	29	37.49	15.32	32.11	-	-	P	V
		15720	50.58	-23.42	74	26.43	40.25	17.87	33.97	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-1 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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 36 5180MHz		5148.46	57.11	-16.89	74	43.49	34	12.15	32.53	392	70	P	H
		5149.76	49.78	-4.22	54	36.16	34	12.15	32.53	392	70	A	H
		5180	111.06	-	-	97.31	34.13	12.16	32.54	392	70	P	H
		5180	104.97	-	-	91.22	34.13	12.16	32.54	392	70	A	H
		5146.9	54.14	-19.86	74	40.52	34	12.15	32.53	397	297	P	V
		5148.46	45.65	-8.35	54	32.03	34	12.15	32.53	397	297	A	V
		5180	103.94	-	-	90.19	34.13	12.16	32.54	397	297	P	V
		5180	97.88	-	-	84.13	34.13	12.16	32.54	397	297	A	V
802.11n HT20 CH 44 5220MHz		5145.86	52.85	-21.15	74	39.23	34	12.15	32.53	388	86	P	H
		5150	44.69	-9.31	54	31.07	34	12.15	32.53	388	86	A	H
		5220	112.14	-	-	98.29	34.23	12.17	32.55	388	86	P	H
		5220	110.07	-	-	96.22	34.23	12.17	32.55	388	86	A	H
		5351.28	51.95	-22.05	74	37.91	34.4	12.21	32.57	388	86	P	H
		5454.96	43.01	-10.99	54	28.96	34.4	12.24	32.59	388	86	A	H
		5128.7	52.47	-21.53	74	38.88	33.97	12.15	32.53	400	343	P	V
		5099.58	44.25	-9.75	54	30.73	33.9	12.14	32.52	400	343	A	V
		5220	103.22	-	-	89.37	34.23	12.17	32.55	400	343	P	V
		5220	97.14	-	-	83.29	34.23	12.17	32.55	400	343	A	V
		5352.48	51.3	-22.7	74	37.26	34.4	12.21	32.57	400	343	P	V
		5358.48	43.35	-10.65	54	29.31	34.4	12.21	32.57	400	343	A	V



802.11n HT20 CH 48 5240MHz		5119.6	53.13	-20.87	74	39.59	33.93	12.14	32.53	387	86	P	H
		5147.42	44.32	-9.68	54	30.7	34	12.15	32.53	387	86	A	H
		5240	110.29	-	-	96.39	34.27	12.18	32.55	387	86	P	H
		5240	104.18	-	-	90.28	34.27	12.18	32.55	387	86	A	H
		5434.08	52.98	-21.02	74	38.94	34.4	12.23	32.59	387	86	P	H
		5352.72	43.19	-10.81	54	29.15	34.4	12.21	32.57	387	86	A	H
		5147.68	53.08	-20.92	74	39.46	34	12.15	32.53	399	350	P	V
		5130.26	44.32	-9.68	54	30.73	33.97	12.15	32.53	399	350	A	V
		5240	103.98	-	-	90.08	34.27	12.18	32.55	399	350	P	V
		5240	97.56	-	-	83.66	34.27	12.18	32.55	399	350	A	V
		5448.96	51.95	-22.05	74	37.9	34.4	12.24	32.59	399	350	P	V
		5368.8	43.11	-10.89	54	29.07	34.4	12.21	32.57	399	350	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-1 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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		10360	50.12	-18.18	68.3	48.47	37.39	15.31	51.05	-	-	P	H
HT20		15540	49.13	-24.87	74	43.95	40.08	17.76	52.66	-	-	P	H
CH 36		10360	49.63	-18.67	68.3	47.98	37.39	15.31	51.05	-	-	P	V
5180MHz		15540	48.23	-25.77	74	43.05	40.08	17.76	52.66	-	-	P	V
802.11n		10440	51.21	-17.09	68.3	49.51	37.45	15.32	51.07	-	-	P	H
HT20		15660	49.71	-24.29	74	44.57	40.19	17.83	52.88	-	-	P	H
CH 44		10440	49.71	-18.59	68.3	48.01	37.45	15.32	51.07	-	-	P	V
5220MHz		15660	48.26	-25.74	74	43.12	40.19	17.83	52.88	-	-	P	V
802.11n		10480	51.09	-17.21	68.3	49.37	37.49	15.32	51.09	-	-	P	H
HT20		15720	47.93	-26.07	74	42.81	40.25	17.87	53	-	-	P	H
CH 48		10480	49.94	-18.36	68.3	48.22	37.49	15.32	51.09	-	-	P	V
5240MHz		15720	47.67	-26.33	74	42.55	40.25	17.87	53	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-1 5150~5250MHz

WIFI 802.11ac VHT40 (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)
802.11ac VHT40 CH 38 5190MHz		5149.76	59.03	-14.97	74	45.41	34	12.15	32.53	391	71	P	H
		5149.5	53.79	-0.21	54	40.17	34	12.15	32.53	391	71	A	H
		5190	106.51	-	-	92.76	34.13	12.16	32.54	391	71	P	H
		5190	100.44	-	-	86.69	34.13	12.16	32.54	391	71	A	H
		5436.76	51.79	-22.21	74	37.75	34.4	12.23	32.59	391	71	P	H
		5432	43.84	-10.16	54	29.8	34.4	12.23	32.59	391	71	A	H
		5127.14	53.87	-20.13	74	40.28	33.97	12.15	32.53	387	295	P	V
		5149.24	47.21	-6.79	54	33.59	34	12.15	32.53	387	295	A	V
		5190	98.5	-	-	84.75	34.13	12.16	32.54	387	295	P	V
		5190	92.45	-	-	78.7	34.13	12.16	32.54	387	295	A	V
		5367.6	51.07	-22.93	74	37.03	34.4	12.21	32.57	387	295	P	V
		5437.32	43.71	-10.29	54	29.67	34.4	12.23	32.59	387	295	A	V
802.11ac VHT40 CH 46 5230MHz		5089.7	53.04	-20.96	74	39.52	33.9	12.14	32.52	380	84	P	H
		5150	46.19	-7.81	54	32.57	34	12.15	32.53	380	84	A	H
		5230	108.39	-	-	94.5	34.27	12.17	32.55	380	84	P	H
		5230	102.26	-	-	88.37	34.27	12.17	32.55	380	84	A	H
		5437.68	51.69	-22.31	74	37.65	34.4	12.23	32.59	380	84	P	H
		5352.96	43.79	-10.21	54	29.75	34.4	12.21	32.57	380	84	A	H
		5126.1	53.84	-20.16	74	40.25	33.97	12.15	32.53	386	342	P	V
		5128.96	45.06	-8.94	54	31.47	33.97	12.15	32.53	386	342	A	V
		5230	101.2	-	-	87.31	34.27	12.17	32.55	386	342	P	V
		5230	95.03	-	-	81.14	34.27	12.17	32.55	386	342	A	V
		5404.56	51.93	-22.07	74	37.89	34.4	12.22	32.58	386	342	P	V
		5444.64	43.73	-10.27	54	29.69	34.4	12.23	32.59	386	342	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-1 5150~5250MHz

WIFI 802.11ac VHT40 (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)	Preamplifier Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac		10380	49.2	-19.1	68.3	47.52	37.41	15.32	51.05	-	-	P	H
VHT40		15570	49.13	-24.87	74	43.96	40.11	17.78	52.72	-	-	P	H
CH 38		10380	49.81	-18.49	68.3	48.13	37.41	15.32	51.05	-	-	P	V
5190MHz		15570	48.94	-25.06	74	43.77	40.11	17.78	52.72	-	-	P	V
802.11ac		10460	50.07	-18.23	68.3	48.37	37.46	15.32	51.08	-	-	P	H
VHT40		15690	48.94	-25.06	74	43.81	40.22	17.85	52.94	-	-	P	H
CH 46		10460	49.87	-18.43	68.3	48.17	37.46	15.32	51.08	-	-	P	V
5230MHz		15690	49.19	-24.81	74	44.06	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.												



U-NII-1 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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 42 5210MHz		5144.82	59.04	-14.96	74	45.42	34	12.15	32.53	212	73	P	H
		5147.68	53.37	-0.63	54	39.75	34	12.15	32.53	212	73	A	H
		5210	103.4	-	-	89.54	34.23	12.17	32.54	212	73	P	H
		5210	96.3	-	-	82.44	34.23	12.17	32.54	212	73	A	H
		5446.8	51.58	-22.42	74	37.53	34.4	12.24	32.59	212	73	P	H
		5454.72	43.83	-10.17	54	29.78	34.4	12.24	32.59	212	73	A	H
		5144.56	56.79	-17.21	74	43.17	34	12.15	32.53	288	328	P	V
		5146.38	49.39	-4.61	54	35.77	34	12.15	32.53	288	328	A	V
		5210	95.09	-	-	81.23	34.23	12.17	32.54	288	328	P	V
		5210	88.41	-	-	74.55	34.23	12.17	32.54	288	328	A	V
		5361.6	51.73	-22.27	74	37.69	34.4	12.21	32.57	288	328	P	V
		5453.28	43.84	-10.16	54	29.79	34.4	12.24	32.59	288	328	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**U-NII-1 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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac		10420	50.31	-17.99	68.3	48.63	37.43	15.32	51.07	-	-	P	H
VHT80		15630	49.61	-24.39	74	44.47	40.17	17.82	52.85	-	-	P	H
CH 42		10420	47.99	-20.31	68.3	46.31	37.43	15.32	51.07	-	-	P	V
5210MHz		15630	49.23	-24.77	74	44.09	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.												



U-NII-2A - 5250~5350MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 52 5260MHz		5094.38	53.83	-20.17	74	40.31	33.9	12.14	32.52	383	82	P	H
		5147.68	43.36	-10.64	54	29.74	34	12.15	32.53	383	82	A	H
		5260	110.49	-	-	96.53	34.33	12.18	32.55	383	82	P	H
		5260	104.45	-	-	90.49	34.33	12.18	32.55	383	82	A	H
		5429.28	52.25	-21.75	74	38.21	34.4	12.23	32.59	383	82	P	H
		5351.04	42.93	-11.07	54	28.89	34.4	12.21	32.57	383	82	A	H
		5128.7	52.23	-21.77	74	38.64	33.97	12.15	32.53	385	343	P	V
		5125.32	43.32	-10.68	54	29.73	33.97	12.15	32.53	385	343	A	V
		5260	104.47	-	-	90.51	34.33	12.18	32.55	385	343	P	V
		5260	98.42	-	-	84.46	34.33	12.18	32.55	385	343	A	V
		5393.76	51.54	-22.46	74	37.5	34.4	12.22	32.58	385	343	P	V
		5356.08	42.35	-11.65	54	28.31	34.4	12.21	32.57	385	343	A	V
802.11a CH 60 5300MHz		5100.8	52.84	-21.16	74	39.32	33.9	12.14	32.52	395	66	P	H
		5125.65	43.26	-10.74	54	29.67	33.97	12.15	32.53	395	66	A	H
		5300	111.91	-	-	97.88	34.4	12.19	32.56	395	66	P	H
		5300	105.88	-	-	91.85	34.4	12.19	32.56	395	66	A	H
		5369.04	54.63	-19.37	74	40.59	34.4	12.21	32.57	395	66	P	H
		5357.52	46.29	-7.71	54	32.25	34.4	12.21	32.57	395	66	A	H
		5019.25	53.09	-20.91	74	39.68	33.8	12.12	32.51	393	342	P	V
		5128.1	43.27	-10.73	54	29.68	33.97	12.15	32.53	393	342	A	V
		5300	103	-	-	88.97	34.4	12.19	32.56	393	342	P	V
		5300	96.92	-	-	82.89	34.4	12.19	32.56	393	342	A	V
		5441.04	52.92	-21.08	74	38.88	34.4	12.23	32.59	393	342	P	V
		5357.52	43.02	-10.98	54	28.98	34.4	12.21	32.57	393	342	A	V



802.11a CH 64 5320MHz		5320	112.72	-	-	98.68	34.4	12.2	32.56	397	82	P	H
		5320	106.71	-	-	92.67	34.4	12.2	32.56	397	82	A	H
		5353.12	56.9	-17.1	74	42.86	34.4	12.21	32.57	397	82	P	H
		5350.08	46.55	-7.45	54	32.51	34.4	12.21	32.57	397	82	A	H
		5320	104.95	-	-	90.91	34.4	12.2	32.56	397	341	P	V
		5320	98.83	-	-	84.79	34.4	12.2	32.56	397	341	A	V
		5366.08	53.94	-20.06	74	39.9	34.4	12.21	32.57	397	341	P	V
		5350.08	43.31	-10.69	54	29.27	34.4	12.21	32.57	397	341	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-2A 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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 52 5260MHz		10520	50.97	-17.33	68.3	30.19	37.51	15.37	32.1	-	-	P	H
		15780	50.86	-23.14	74	26.69	40.3	17.9	34.03	-	-	P	H
		10520	50.25	-18.05	68.3	29.47	37.51	15.37	32.1	-	-	P	V
		15780	50	-24	74	25.83	40.3	17.9	34.03	-	-	P	V
802.11a CH 60 5300MHz		10600	50.72	-23.28	74	29.69	37.56	15.55	32.08	-	-	P	H
		15900	50.05	-23.95	74	25.79	40.41	17.97	34.12	-	-	P	H
		10600	50.06	-23.94	74	29.03	37.56	15.55	32.08	-	-	P	V
		15900	49.99	-24.01	74	25.73	40.41	17.97	34.12	-	-	P	V
802.11a CH 64 5320MHz		10640	50.8	-23.2	74	29.64	37.58	15.65	32.07	-	-	P	H
		15960	50.92	-23.08	74	26.62	40.47	18.01	34.18	-	-	P	H
		10640	50.44	-23.56	74	29.28	37.58	15.65	32.07	-	-	P	V
		15960	50.04	-23.96	74	25.74	40.47	18.01	34.18	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-2A 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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 52 5260MHz		5147.42	53.01	-20.99	74	39.39	34	12.15	32.53	383	82	P	H
		5121.94	44.28	-9.72	54	30.74	33.93	12.14	32.53	383	82	A	H
		5260	111.46	-	-	97.5	34.33	12.18	32.55	383	82	P	H
		5260	105.42	-	-	91.46	34.33	12.18	32.55	383	82	A	H
		5360.88	52.07	-21.93	74	38.03	34.4	12.21	32.57	383	82	P	H
		5351.04	43.52	-10.48	54	29.48	34.4	12.21	32.57	383	82	A	H
		5148.2	53.77	-20.23	74	40.15	34	12.15	32.53	385	343	P	V
		5122.46	44.28	-9.72	54	30.74	33.93	12.14	32.53	385	343	A	V
		5260	102.96	-	-	89	34.33	12.18	32.55	385	343	P	V
		5260	96.85	-	-	82.89	34.33	12.18	32.55	385	343	A	V
		5358.72	51.49	-22.51	74	37.45	34.4	12.21	32.57	385	343	P	V
		5354.88	43.13	-10.87	54	29.09	34.4	12.21	32.57	385	343	A	V
802.11n HT20 CH 60 5300MHz		5149.45	54.28	-19.72	74	40.66	34	12.15	32.53	396	68	P	H
		5143.85	44.21	-9.79	54	30.59	34	12.15	32.53	396	68	A	H
		5300	112.74	-	-	98.71	34.4	12.19	32.56	396	68	P	H
		5300	106.7	-	-	92.67	34.4	12.19	32.56	396	68	A	H
		5354.16	53.73	-20.27	74	39.69	34.4	12.21	32.57	396	68	P	H
		5357.52	46.04	-7.96	54	32	34.4	12.21	32.57	396	68	A	H
		5128.45	54.08	-19.92	74	40.49	33.97	12.15	32.53	399	297	P	V
		5102.9	44.28	-9.72	54	30.76	33.9	12.14	32.52	399	297	A	V
		5300	105.17	-	-	91.14	34.4	12.19	32.56	399	297	P	V
		5300	99.13	-	-	85.1	34.4	12.19	32.56	399	297	A	V
		5423.76	52.69	-21.31	74	38.64	34.4	12.23	32.58	399	297	P	V
		5351.28	43.58	-10.42	54	29.54	34.4	12.21	32.57	399	297	A	V



802.11n HT20 CH 64 5320MHz		5320	112.47	-	-	98.43	34.4	12.2	32.56	398	82	P	H
		5320	106.42	-	-	92.38	34.4	12.2	32.56	398	82	A	H
		5352.32	56.99	-17.01	74	42.95	34.4	12.21	32.57	398	82	P	H
		5350.4	48.51	-5.49	54	34.47	34.4	12.21	32.57	398	82	A	H
		5320	104.7	-	-	90.66	34.4	12.2	32.56	397	343	P	V
		5320	98.57	-	-	84.53	34.4	12.2	32.56	397	343	A	V
		5353.12	51.87	-22.13	74	37.83	34.4	12.21	32.57	397	343	P	V
		5350.88	44.51	-9.49	54	30.47	34.4	12.21	32.57	397	343	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-2A 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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		10520	50.97	-17.33	68.3	49.2	37.51	15.37	51.11	-	-	P	H
HT20		15780	49.52	-24.48	74	44.42	40.3	17.9	53.1	-	-	P	H
CH 52		10520	49.26	-19.04	68.3	47.49	37.51	15.37	51.11	-	-	P	V
5260MHz		15780	50.06	-23.94	74	44.96	40.3	17.9	53.1	-	-	P	V
802.11n		10600	50.17	-23.83	74	48.22	37.56	15.55	51.16	-	-	P	H
HT20		15900	48.86	-25.14	74	43.79	40.41	17.97	53.31	-	-	P	H
CH 60		10600	49.96	-24.04	74	48.01	37.56	15.55	51.16	-	-	P	V
5300MHz		15900	49.2	-24.8	74	44.13	40.41	17.97	53.31	-	-	P	V
802.11n		10640	50.51	-23.49	74	48.46	37.58	15.65	51.18	-	-	P	H
HT20		15960	48.48	-25.52	74	43.44	40.47	18.01	53.44	-	-	P	H
CH 64		10640	50.23	-23.77	74	48.18	37.58	15.65	51.18	-	-	P	V
5320MHz		15960	48.99	-25.01	74	43.95	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.												



U-NII-2A 5250~5350MHz
WIFI 802.11ac VHT40 (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)
802.11ac VHT40 CH 54 5270MHz		5024.15	53.12	-20.88	74	39.71	33.8	12.12	32.51	382	81	P	H
		5131.6	44.96	-9.04	54	31.37	33.97	12.15	32.53	382	81	A	H
		5270	108.61	-	-	94.64	34.33	12.19	32.55	382	81	P	H
		5270	102.54	-	-	88.57	34.33	12.19	32.55	382	81	A	H
		5353.92	52.71	-21.29	74	38.67	34.4	12.21	32.57	382	81	P	H
		5350.56	45.63	-8.37	54	31.59	34.4	12.21	32.57	382	81	A	H
		5077	53.19	-20.81	74	39.71	33.87	12.13	32.52	396	343	P	V
		5122.85	44.87	-9.13	54	31.29	33.97	12.14	32.53	396	343	A	V
		5270	100.39	-	-	86.42	34.33	12.19	32.55	396	343	P	V
		5270	94.35	-	-	80.38	34.33	12.19	32.55	396	343	A	V
		5350.08	52.92	-21.08	74	38.88	34.4	12.21	32.57	396	343	P	V
		5352	44.06	-9.94	54	30.02	34.4	12.21	32.57	396	343	A	V
802.11ac VHT40 CH 62 5310MHz		5082.25	53.06	-20.94	74	39.58	33.87	12.13	32.52	394	81	P	H
		5121.45	44.93	-9.07	54	31.39	33.93	12.14	32.53	394	81	A	H
		5310	107.12	-	-	93.08	34.4	12.2	32.56	394	81	P	H
		5310	103.47	-	-	89.43	34.4	12.2	32.56	394	81	A	H
		5351.04	59.54	-14.46	74	45.5	34.4	12.21	32.57	394	81	P	H
		5350.56	53.26	-0.74	54	39.22	34.4	12.21	32.57	394	81	A	H
		5057.4	52.94	-21.06	74	39.49	33.83	12.13	32.51	389	351	P	V
		5109.55	44.98	-9.02	54	31.43	33.93	12.14	32.52	389	351	A	V
		5310	98.81	-	-	84.77	34.4	12.2	32.56	389	351	P	V
		5310	92.68	-	-	78.64	34.4	12.2	32.56	389	351	A	V
		5350.56	53.89	-20.11	74	39.85	34.4	12.21	32.57	389	351	P	V
		5350.56	45.1	-8.9	54	31.06	34.4	12.21	32.57	389	351	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-2A 5250~5350MHz

WIFI 802.11ac VHT40 (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)
802.11ac		10540	49.81	-18.49	68.3	48	37.52	15.41	51.12	-	-	P	H
VHT40		15810	49.67	-24.33	74	44.58	40.33	17.92	53.16	-	-	P	H
CH 54		10540	48.95	-19.35	68.3	47.14	37.52	15.41	51.12	-	-	P	V
5270MHz		15810	49.22	-24.78	74	44.13	40.33	17.92	53.16	-	-	P	V
802.11ac		10620	49.95	-24.05	74	47.95	37.57	15.6	51.17	-	-	P	H
VHT40		15930	49.71	-24.29	74	44.66	40.44	17.99	53.38	-	-	P	H
CH 62		10620	50.28	-23.72	74	48.28	37.57	15.6	51.17	-	-	P	V
5310MHz		15930	48.77	-25.23	74	43.72	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.												



U-NII-2A 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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 58 5290MHz		5104.3	52.64	-21.36	74	39.12	33.9	12.14	32.52	336	360	P	H
		5108.85	45.02	-8.98	54	31.47	33.93	12.14	32.52	201	73	A	H
		5290	102.67	-	-	88.67	34.37	12.19	32.56	201	73	P	H
		5290	95.77	-	-	81.77	34.37	12.19	32.56	201	73	A	H
		5352.72	62.15	-11.85	74	48.11	34.4	12.21	32.57	201	73	P	H
		5357.52	53.44	-0.56	54	39.4	34.4	12.21	32.57	201	73	A	H
		5104.3	53.64	-20.36	74	40.12	33.9	12.14	32.52	336	360	P	V
		5095.2	45.24	-8.76	54	31.72	33.9	12.14	32.52	336	360	A	V
		5290	99.66	-	-	85.66	34.37	12.19	32.56	336	360	P	V
		5290	93.58	-	-	79.58	34.37	12.19	32.56	336	360	A	V
		5353.44	58.73	-15.27	74	44.69	34.4	12.21	32.57	336	360	P	V
		5350.32	51.91	-2.09	54	37.87	34.4	12.21	32.57	336	360	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**U-NII-2A 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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac		10580	49.88	-18.42	68.3	47.97	37.55	15.51	51.15	-	-	P	H
VHT80		15870	50.43	-23.57	74	45.37	40.39	17.95	53.28	-	-	P	H
CH 58		10580	49.42	-18.88	68.3	47.51	37.55	15.51	51.15	-	-	P	V
5290MHz		15870	49.36	-24.64	74	44.3	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.												



U-NII-2C - 5470~5725MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 100 5500MHz		5458.8	57.26	-16.74	74	43.21	34.4	12.24	32.59	365	82	P	H
		5463.6	56.81	-11.49	68.3	42.76	34.4	12.24	32.59	365	82	P	H
		5460	44.88	-9.12	54	30.83	34.4	12.24	32.59	365	82	A	H
		5500	109	-	-	94.95	34.4	12.25	32.6	365	82	P	H
		5500	102.94	-	-	88.89	34.4	12.25	32.6	365	82	A	H
		5451.28	53.44	-20.56	74	39.39	34.4	12.24	32.59	368	334	P	V
		5462.8	50.88	-17.42	68.3	36.83	34.4	12.24	32.59	368	334	P	V
		5458.64	43.25	-10.75	54	29.2	34.4	12.24	32.59	368	334	A	V
		5500	105.08	-	-	91.03	34.4	12.25	32.6	368	334	P	V
		5500	99.02	-	-	84.97	34.4	12.25	32.6	368	334	A	V
802.11a CH 116 5580MHz		5388.88	52.27	-21.73	74	38.23	34.4	12.22	32.58	375	68	P	H
		5461.12	50.42	-17.88	68.3	36.37	34.4	12.24	32.59	375	68	P	H
		5458.24	42.36	-11.64	54	28.31	34.4	12.24	32.59	375	68	A	H
		5580	111.68	-	-	97.71	34.3	12.27	32.6	375	68	P	H
		5580	105.65	-	-	91.68	34.3	12.27	32.6	375	68	A	H
		5757.125	51.5	-16.8	68.3	37.23	34.57	12.3	32.6	375	68	P	H
		5422.24	51.35	-22.65	74	37.3	34.4	12.23	32.58	390	306	P	V
		5464.24	50.77	-17.53	68.3	36.72	34.4	12.24	32.59	390	306	P	V
		5459.68	42.24	-11.76	54	28.19	34.4	12.24	32.59	390	306	A	V
		5580	105.95	-	-	91.98	34.3	12.27	32.6	390	306	P	V
		5580	99.76	-	-	85.79	34.3	12.27	32.6	390	306	A	V
		5762.48	52.03	-16.27	68.3	37.76	34.57	12.3	32.6	390	306	P	V



802.11a CH 140 5700MHz		5700	111.27	-	-	97.18	34.4	12.29	32.6	376	63	P	H
		5700	105.19	-	-	91.1	34.4	12.29	32.6	376	63	A	H
		5725.72	64.2	-4.1	68.3	50.03	34.47	12.3	32.6	376	63	P	H
		5700	108.18	-	-	94.09	34.4	12.29	32.6	381	310	P	V
		5700	101.78	-	-	87.69	34.4	12.29	32.6	381	310	A	V
		5727.72	57.79	-10.51	68.3	43.62	34.47	12.3	32.6	381	310	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-2C - 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 100 5500MHz		11000	50.11	-23.89	74	27.82	37.8	16.49	32	-	-	P	H
		16500	53.03	-15.27	68.3	27.92	41.31	18.2	34.4	-	-	P	H
		11000	50.24	-23.76	74	27.95	37.8	16.49	32	-	-	P	V
		16500	52.1	-16.2	68.3	26.99	41.31	18.2	34.4	-	-	P	V
802.11a CH 116 5580MHz		11160	50.54	-23.46	74	28.13	37.94	16.5	32.03	-	-	P	H
		16740	51.77	-16.53	68.3	26.25	41.69	18.28	34.45	-	-	P	H
		11160	50	-24	74	27.59	37.94	16.5	32.03	-	-	P	V
		16740	50.74	-17.56	68.3	25.22	41.69	18.28	34.45	-	-	P	V
802.11a CH 140 5700MHz		11400	50.45	-23.55	74	27.88	38.13	16.52	32.08	-	-	P	H
		17100	51.51	-16.79	68.3	25.58	42	18.41	34.48	-	-	P	H
		11400	50.3	-23.7	74	27.73	38.13	16.52	32.08	-	-	P	V
		17100	51.33	-16.97	68.3	25.4	42	18.41	34.48	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-2C - 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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 100 5500MHz		5459.44	54.57	-19.43	74	40.52	34.4	12.24	32.59	381	69	P	H
		5467.92	59.03	-9.27	68.3	44.98	34.4	12.24	32.59	381	69	P	H
		5459.92	45.95	-8.05	54	31.9	34.4	12.24	32.59	381	69	A	H
		5500	112.23	-	-	98.18	34.4	12.25	32.6	381	69	P	H
		5500	106.18	-	-	92.13	34.4	12.25	32.6	381	69	A	H
		5457.36	52.26	-21.74	74	38.21	34.4	12.24	32.59	367	334	P	V
		5470	53.63	-14.67	68.3	39.58	34.4	12.24	32.59	367	334	P	V
		5459.44	44.3	-9.7	54	30.25	34.4	12.24	32.59	367	334	A	V
		5500	105.53	-	-	91.48	34.4	12.25	32.6	367	334	P	V
		5500	99.42	-	-	85.37	34.4	12.25	32.6	367	334	A	V
802.11n HT20 CH 116 5580MHz		5446.24	51.81	-22.19	74	37.77	34.4	12.23	32.59	394	67	P	H
		5462.08	51.01	-17.29	68.3	36.96	34.4	12.24	32.59	394	67	P	H
		5419.84	43.17	-10.83	54	29.12	34.4	12.23	32.58	394	67	A	H
		5580	112.32	-	-	98.35	34.3	12.27	32.6	394	67	P	H
		5580	106.31	-	-	92.34	34.3	12.27	32.6	394	67	A	H
		5730.665	51.37	-16.93	68.3	37.2	34.47	12.3	32.6	394	67	P	H
		5378.32	51.86	-22.14	74	37.82	34.4	12.22	32.58	390	308	P	V
		5464	49.72	-18.58	68.3	35.67	34.4	12.24	32.59	390	308	P	V
		5396.56	43.01	-10.99	54	28.97	34.4	12.22	32.58	390	308	A	V
		5580	104.34	-	-	90.37	34.3	12.27	32.6	390	308	P	V
		5580	98.28	-	-	84.31	34.3	12.27	32.6	390	308	A	V
		5750.195	52.57	-15.73	68.3	38.37	34.5	12.3	32.6	390	308	P	V



802.11n HT20 CH 140 5700MHz		5700	111.39	-	-	97.3	34.4	12.29	32.6	398	58	P	H
		5700	105.33	-	-	91.24	34.4	12.29	32.6	398	58	A	H
		5725.16	60.82	-7.48	68.3	46.65	34.47	12.3	32.6	398	58	P	H
		5700	107.07	-	-	92.98	34.4	12.29	32.6	400	309	P	V
		5700	100.63	-	-	86.54	34.4	12.29	32.6	400	309	A	V
		5725.72	57.23	-11.07	68.3	43.06	34.47	12.3	32.6	400	309	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-2C - 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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		11000	50.41	-23.59	74	47.52	37.8	16.49	51.4	-	-	P	H
HT20		16500	50.02	-18.28	68.3	43.21	41.31	18.2	52.7	-	-	P	H
CH 100		11000	50.83	-23.17	74	47.94	37.8	16.49	51.4	-	-	P	V
5500MHz		16500	52.06	-16.24	68.3	45.25	41.31	18.2	52.7	-	-	P	V
802.11n		11160	50.16	-23.84	74	46.99	37.94	16.5	51.27	-	-	P	H
HT20		16740	51.05	-17.25	68.3	44.21	41.69	18.28	53.13	-	-	P	H
CH 116		11160	50.52	-23.48	74	47.35	37.94	16.5	51.27	-	-	P	V
5580MHz		16740	49.57	-18.73	68.3	42.73	41.69	18.28	53.13	-	-	P	V
802.11n		11400	50.28	-23.72	74	46.71	38.13	16.52	51.08	-	-	P	H
HT20		17100	51.68	-16.62	68.3	44.79	42	18.41	53.52	-	-	P	H
CH 140		11400	50.88	-23.12	74	47.31	38.13	16.52	51.08	-	-	P	V
5700MHz		17100	51.54	-16.76	68.3	44.65	42	18.41	53.52	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-2C - 5470~5725MHz
WIFI 802.11ac VHT40 (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)
802.11ac VHT40 CH 102 5510MHz		5456.56	57.45	-16.55	74	43.4	34.4	12.24	32.59	384	71	P	H
		5465.92	64.66	-3.64	68.3	50.61	34.4	12.24	32.59	384	71	P	H
		5459.92	53.14	-0.86	54	39.09	34.4	12.24	32.59	384	71	A	H
		5510	106.77	-	-	92.72	34.4	12.25	32.6	384	71	P	H
		5510	100.64	-	-	86.59	34.4	12.25	32.6	384	71	A	H
		5752.085	52.05	-16.25	68.3	37.78	34.57	12.3	32.6	384	71	P	H
		5358.88	52.4	-21.6	74	38.36	34.4	12.21	32.57	382	330	P	V
		5464.72	52.73	-15.57	68.3	38.68	34.4	12.24	32.59	382	330	P	V
		5459.92	44.8	-9.2	54	30.75	34.4	12.24	32.59	382	330	A	V
		5510	98.91	-	-	84.86	34.4	12.25	32.6	382	330	P	V
		5510	92.8	-	-	78.75	34.4	12.25	32.6	382	330	A	V
		5760.275	52.13	-16.17	68.3	37.86	34.57	12.3	32.6	382	330	P	V
802.11ac VHT40 CH 110 5550MHz		5454.88	53.85	-20.15	74	39.8	34.4	12.24	32.59	396	57	P	H
		5466.4	54.2	-14.1	68.3	40.15	34.4	12.24	32.59	396	57	P	H
		5457.76	45.39	-8.61	54	31.34	34.4	12.24	32.59	396	57	A	H
		5550	107.69	-	-	93.73	34.3	12.26	32.6	396	57	P	H
		5550	100.75	-	-	86.79	34.3	12.26	32.6	396	57	A	H
		5747.675	52.41	-15.89	68.3	38.21	34.5	12.3	32.6	396	57	P	H
		5455.36	51.83	-22.17	74	37.78	34.4	12.24	32.59	396	333	P	V
		5461.12	50.87	-17.43	68.3	36.82	34.4	12.24	32.59	396	333	P	V
		5458.96	44.24	-9.76	54	30.19	34.4	12.24	32.59	396	333	A	V
		5550	104.21	-	-	90.25	34.3	12.26	32.6	396	333	P	V
		5550	97.46	-	-	83.5	34.3	12.26	32.6	396	333	A	V
		5760.59	51.75	-16.55	68.3	37.48	34.57	12.3	32.6	396	333	P	V



802.11ac VHT40 CH 134 5670MHz		5443.8	51.95	-22.05	74	37.91	34.4	12.23	32.59	397	54	P	H
		5464.45	51.74	-16.56	68.3	37.69	34.4	12.24	32.59	397	54	P	H
		5424.2	44.08	-9.92	54	30.03	34.4	12.23	32.58	397	54	A	H
		5670	108.41	-	-	94.33	34.4	12.28	32.6	397	54	P	H
		5670	100.88	-	-	86.8	34.4	12.28	32.6	397	54	A	H
		5729.125	61.38	-6.92	68.3	47.21	34.47	12.3	32.6	397	54	P	H
		5431.2	52.38	-21.62	74	38.34	34.4	12.23	32.59	381	332	P	V
		5460.25	50.65	-17.65	68.3	36.6	34.4	12.24	32.59	381	332	P	V
		5364.35	43.73	-10.27	54	29.69	34.4	12.21	32.57	381	332	A	V
		5670	103.48	-	-	89.4	34.4	12.28	32.6	381	332	P	V
		5670	96.96	-	-	82.88	34.4	12.28	32.6	381	332	A	V
		5726.15	56.08	-12.22	68.3	41.91	34.47	12.3	32.6	381	332	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-2C - 5470~5725MHz

WIFI 802.11ac VHT40 (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)
802.11ac		11020	50.73	-23.27	74	47.82	37.81	16.49	51.39	-	-	P	H
VHT40		16530	51.85	-16.45	68.3	45.03	41.37	18.21	52.76	-	-	P	H
CH 102		11020	50.28	-23.72	74	47.37	37.81	16.49	51.39	-	-	P	V
5510MHz		16530	50.41	-17.89	68.3	43.59	41.37	18.21	52.76	-	-	P	V
802.11ac		11100	50.05	-23.95	74	46.99	37.88	16.5	51.32	-	-	P	H
VHT40		16650	50.96	-17.34	68.3	44.13	41.56	18.25	52.98	-	-	P	H
CH 110		11100	50.72	-23.28	74	47.66	37.88	16.5	51.32	-	-	P	V
5550MHz		16650	50.29	-18.01	68.3	43.46	41.56	18.25	52.98	-	-	P	V
802.11ac		11340	50.37	-23.63	74	46.91	38.07	16.52	51.13	-	-	P	H
VHT40		17010	50.13	-18.17	68.3	43.27	42.08	18.37	53.59	-	-	P	H
CH 134		11340	50.71	-23.29	74	47.25	38.07	16.52	51.13	-	-	P	V
5670MHz		17010	48.21	-20.09	68.3	41.35	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.												



U-NII-2C - 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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 106 5530MHz		5452.96	57.19	-16.81	74	43.14	34.4	12.24	32.59	322	215	P	H
		5470	61.79	-6.51	68.3	47.74	34.4	12.24	32.59	322	215	P	H
		5459.44	49.93	-4.07	54	35.88	34.4	12.24	32.59	322	215	A	H
		5530	99.74	-	-	85.71	34.37	12.26	32.6	322	215	P	H
		5530	93.66	-	-	79.63	34.37	12.26	32.6	322	215	A	H
		5741.06	51.71	-16.59	68.3	37.51	34.5	12.3	32.6	322	215	P	H
		5458.72	60.17	-13.83	74	46.12	34.4	12.24	32.59	341	333	P	V
		5462.56	60.68	-7.62	68.3	46.63	34.4	12.24	32.59	341	333	P	V
		5459.68	53.39	-0.61	54	39.34	34.4	12.24	32.59	341	333	A	V
		5530	98.85	-	-	84.82	34.37	12.26	32.6	341	333	P	V
		5530	91.92	-	-	77.89	34.37	12.26	32.6	341	333	A	V
		5741.69	51.95	-16.35	68.3	37.75	34.5	12.3	32.6	341	333	P	V
802.11ac VHT80 CH 122 5610MHz		5458.72	52.64	-21.36	74	38.59	34.4	12.24	32.59	309	98	P	H
		5469.52	52.62	-15.68	68.3	38.57	34.4	12.24	32.59	309	98	P	H
		5457.76	44.42	-9.58	54	30.37	34.4	12.24	32.59	309	98	A	H
		5610	103.71	-	-	89.74	34.3	12.27	32.6	309	98	P	H
		5610	97.38	-	-	83.41	34.3	12.27	32.6	309	98	A	H
		5726.85	55.99	-12.31	68.3	41.82	34.47	12.3	32.6	309	98	P	H
		5420.32	51.85	-22.15	74	37.8	34.4	12.23	32.58	368	332	P	V
		5464.72	51.31	-16.99	68.3	37.26	34.4	12.24	32.59	368	332	P	V
		5457.28	44.86	-9.14	54	30.81	34.4	12.24	32.59	368	332	A	V
		5610	101.32	-	-	87.35	34.3	12.27	32.6	368	332	P	V
		5610	94.47	-	-	80.5	34.3	12.27	32.6	368	332	A	V
		5738.575	57.15	-11.15	68.3	42.95	34.5	12.3	32.6	368	332	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-2C 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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac		11060	51.18	-22.82	74	48.19	37.85	16.49	51.35	-	-	P	H
VHT80		16590	50.46	-17.84	68.3	43.64	41.45	18.23	52.86	-	-	P	H
CH 106		11060	52.1	-21.9	74	49.11	37.85	16.49	51.35	-	-	P	V
5530MHz		16590	51.3	-17	68.3	44.48	41.45	18.23	52.86	-	-	P	V
802.11ac		11220	51.54	-22.46	74	48.28	37.98	16.51	51.23	-	-	P	H
VHT80		16830	49.08	-19.22	68.3	42.23	41.83	18.31	53.29	-	-	P	H
CH 122		11220	51.3	-22.7	74	48.04	37.98	16.51	51.23	-	-	P	V
5610MHz		16830	50.23	-18.07	68.3	43.38	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.												



U-NII-2C - Straddle Channel

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 144 5720MHz		5444.6	52.23	-21.77	74	38.19	34.4	12.23	32.59	309	208	P	H
		5461.65	50.99	-17.31	68.3	36.94	34.4	12.24	32.59	309	208	P	H
		5720	106.16	-	-	92	34.47	12.29	32.6	309	208	P	H
		5870.85	54.13	-14.17	68.3	39.48	34.93	12.32	32.6	309	208	P	H
		5351.1	45.58	-8.42	54	31.54	34.4	12.21	32.57	309	208	A	H
		5440.2	51.7	-22.3	74	37.66	34.4	12.23	32.59	159	22	P	V
		5468.8	50.6	-17.7	68.3	36.55	34.4	12.24	32.59	159	22	P	V
		5720	103.84	-	-	89.68	34.47	12.29	32.6	159	22	P	V
		5865.35	53.67	-14.63	68.3	39.08	34.87	12.32	32.6	159	22	P	V
		5460	45.86	-8.14	54	31.81	34.4	12.24	32.59	159	22	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

U-NII-2C - Straddle Channel

WIFI 802.11a (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 144 5720MHz		11440	50.47	-23.53	74	27.88	38.15	16.53	32.09	-	-	P	H
		17160	53.26	-15.04	68.3	27.37	41.93	18.43	34.47	-	-	P	H
		11440	50.6	-23.4	74	28.01	38.15	16.53	32.09	-	-	P	V
		17160	52.19	-16.11	68.3	26.3	41.93	18.43	34.47	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-2C - 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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 144 5720MHz		5370.9	51.99	-22.01	74	37.95	34.4	12.21	32.57	308	215	P	H
		5467.7	51.5	-16.8	68.3	37.45	34.4	12.24	32.59	308	215	P	H
		5720	107.89	-	-	93.73	34.47	12.29	32.6	308	215	P	H
		5889	53.03	-15.27	68.3	38.3	35	12.33	32.6	308	215	P	H
		5383.55	45.64	-8.36	54	31.6	34.4	12.22	32.58	308	215	A	H
		5434.15	51.01	-22.99	74	36.97	34.4	12.23	32.59	301	176	P	V
		5464.4	50.03	-18.27	68.3	35.98	34.4	12.24	32.59	301	176	P	V
		5720	104.4	-	-	90.24	34.47	12.29	32.6	301	176	P	V
		5889	52.36	-15.94	68.3	37.63	35	12.33	32.6	301	176	P	V
		5460	45.12	-8.88	54	31.07	34.4	12.24	32.59	301	176	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

U-NII-2C - 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)	Cable 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	50.84	-23.16	74	28.25	38.15	16.53	32.09	-	-	P	H
		17160	52.19	-16.11	68.3	26.3	41.93	18.43	34.47	-	-	P	H
		11440	50.89	-23.11	74	28.3	38.15	16.53	32.09	-	-	P	V
		17160	51.13	-17.17	68.3	25.24	41.93	18.43	34.47	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-2C - Straddle Channel
WIFI 802.11ac VHT40 (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)
802.11ac VHT40 CH 142 5710MHz		5436.35	51.51	-22.49	74	37.47	34.4	12.23	32.59	315	221	P	H
		5469.35	50.07	-18.23	68.3	36.02	34.4	12.24	32.59	315	221	P	H
		5710	104.24	-	-	90.12	34.43	12.29	32.6	315	221	P	H
		5869.2	54.27	-14.03	68.3	39.68	34.87	12.32	32.6	315	221	P	H
		5403.9	45.47	-8.53	54	31.43	34.4	12.22	32.58	315	221	A	H
		5372.55	51.45	-22.55	74	37.41	34.4	12.21	32.57	301	180	P	V
		5461.1	49.99	-18.31	68.3	35.94	34.4	12.24	32.59	301	180	P	V
		5710	100.39	-	-	86.27	34.43	12.29	32.6	301	180	P	V
		5887.35	54.84	-13.46	68.3	40.18	34.93	12.33	32.6	301	180	P	V
		5433.05	45.45	-8.55	54	31.41	34.4	12.23	32.59	301	180	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

U-NII-2C - Straddle Channel
WIFI 802.11ac VHT40 (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)
802.11ac VHT40 CH 142 5710MHz		11420	50.9	-23.1	74	28.32	38.14	16.52	32.08	-	-	P	H
		17130	50.64	-17.66	68.3	24.73	41.96	18.42	34.47	-	-	P	H
		11420	50.99	-23.01	74	28.41	38.14	16.52	32.08	-	-	P	V
		17130	50.86	-17.44	68.3	24.95	41.96	18.42	34.47	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



U-NII-2C - 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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 138 5690MHz		5364.85	51.43	-22.57	74	37.39	34.4	12.21	32.57	316	216	P	H
		5463.3	51.61	-16.69	68.3	37.56	34.4	12.24	32.59	316	216	P	H
		5690	101.21	-	-	87.12	34.4	12.29	32.6	316	216	P	H
		5900	53.37	-14.93	68.3	38.64	35	12.33	32.6	316	216	P	H
		5352.2	45.25	-8.75	54	31.21	34.4	12.21	32.57	316	216	A	H
		5433.6	51.99	-22.01	74	37.95	34.4	12.23	32.59	302	177	P	V
		5468.25	51.1	-17.2	68.3	37.05	34.4	12.24	32.59	302	177	P	V
		5690	98.22	-	-	84.13	34.4	12.29	32.6	302	177	P	V
		5893.95	52.79	-15.51	68.3	38.06	35	12.33	32.6	302	177	P	V
		5455.05	45.48	-8.52	54	31.43	34.4	12.24	32.59	302	177	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

U-NII-2C - 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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 138 5690MHz		11380	50.25	-23.75	74	27.69	38.11	16.52	32.07	-	-	P	H
		17070	49.83	-18.47	68.3	23.89	42.03	18.4	34.49	-	-	P	H
		11380	49.88	-24.12	74	27.32	38.11	16.52	32.07	-	-	P	V
		17070	50.54	-17.76	68.3	24.6	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 802.11ac VHT80 (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n VHT80 LF		30	23.97	-16.03	40	30.64	25.2	0.53	32.4	-	-	P	H
		141.55	18.85	-24.65	43.5	32.33	17.5	1.22	32.2	-	-	P	H
		293.84	20.9	-25.1	46	31.65	19.18	1.78	31.71	-	-	P	H
		569.32	28.43	-17.57	46	30.49	26.26	2.5	30.82	-	-	P	H
		872.93	31.55	-14.45	46	30.7	29.2	3.1	31.45	-	-	P	H
		984.48	34.08	-19.92	54	31.14	30.83	3.29	31.18	-	-	P	H
		30.97	25.71	-14.29	40	32.87	24.7	0.54	32.4	-	-	P	V
		66.86	25.57	-14.43	40	44.95	12.2	0.82	32.4	-	-	P	V
		143.49	22.94	-20.56	43.5	36.51	17.4	1.23	32.2	-	-	P	V
		566.41	28.68	-17.32	46	30.58	26.44	2.49	30.83	-	-	P	V
		857.41	32.23	-13.77	46	31.28	29.3	3.07	31.42	-	-	P	V
		971.87	33.81	-20.19	54	30.57	31.26	3.27	31.29	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Note symbol

*	Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is over limit line.
P/A	P eak or A verage
H/V	H orizontal or V ertical



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:

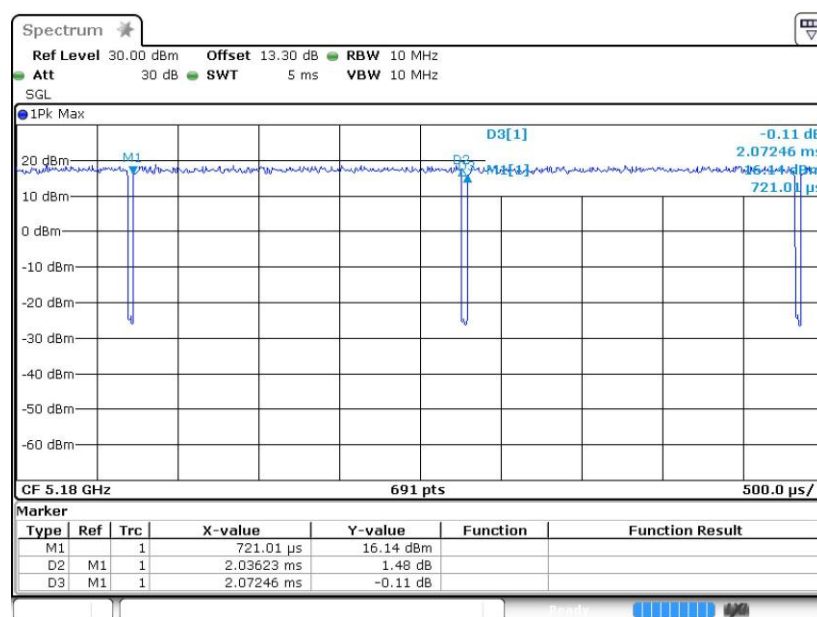
1. Level(dBμV/m)
 = Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
 = 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)
 = 43.54 (dBμV/m)
2. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)
 = 43.54(dBμV/m) – 54(dBμV/m)
 = -10.46(dB)

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	98.25	-	-	10Hz
802.11n HT20	97.75	1.891	0.529	1KHz
802.11n HT40	96.24	0.928	1.078	3KHz
802.11ac VHT20	97.76	1.899	0.527	1KHz
802.11ac VHT40	96.27	0.935	1.070	3KHz
802.11ac VHT80	92.92	0.457	2.190	3KHz

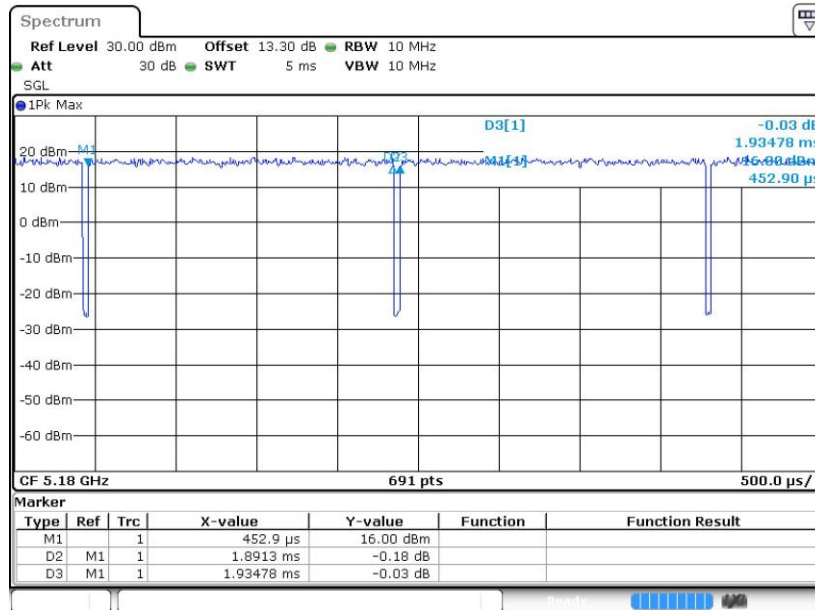
802.11a



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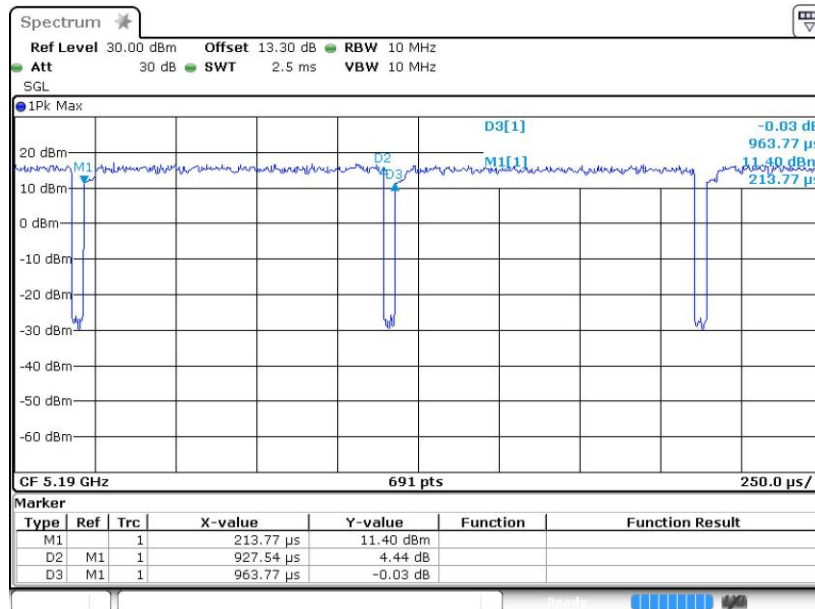


802.11n HT20



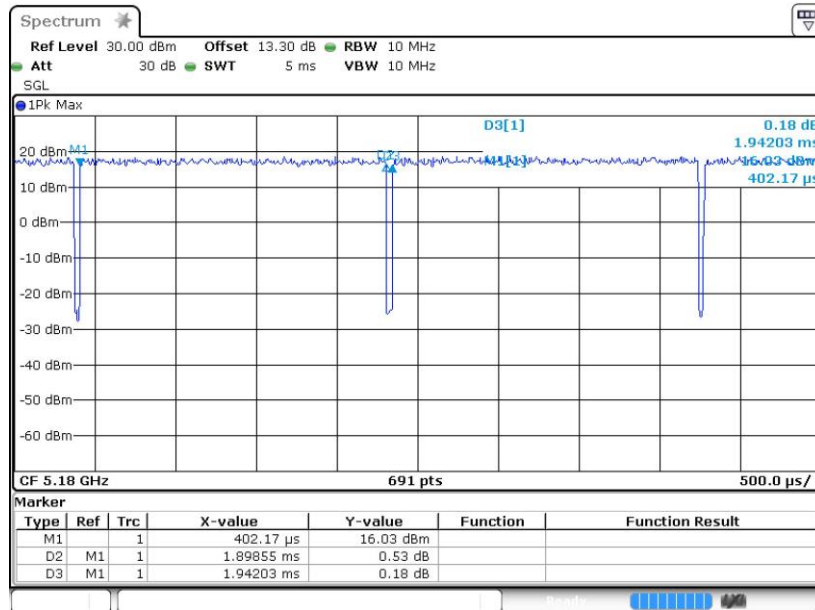
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802.11n HT40



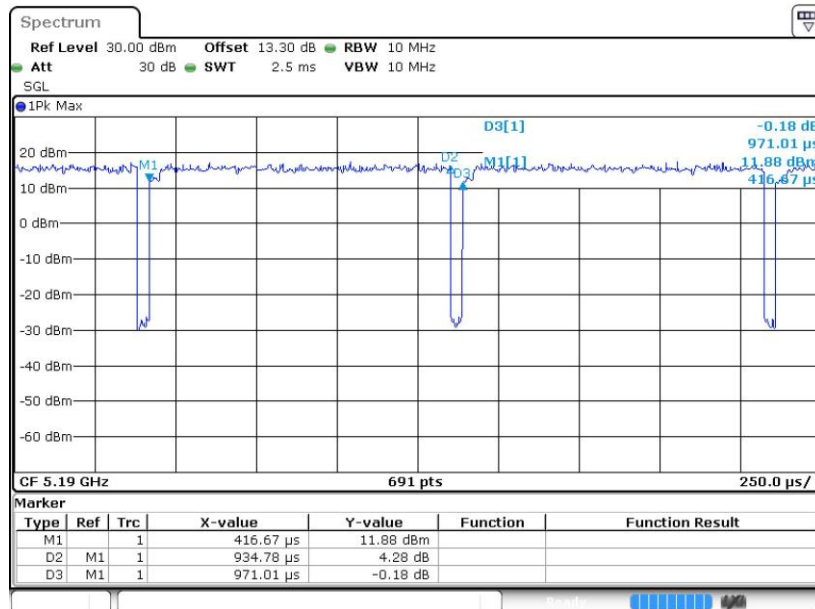
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802.11ac VHT20



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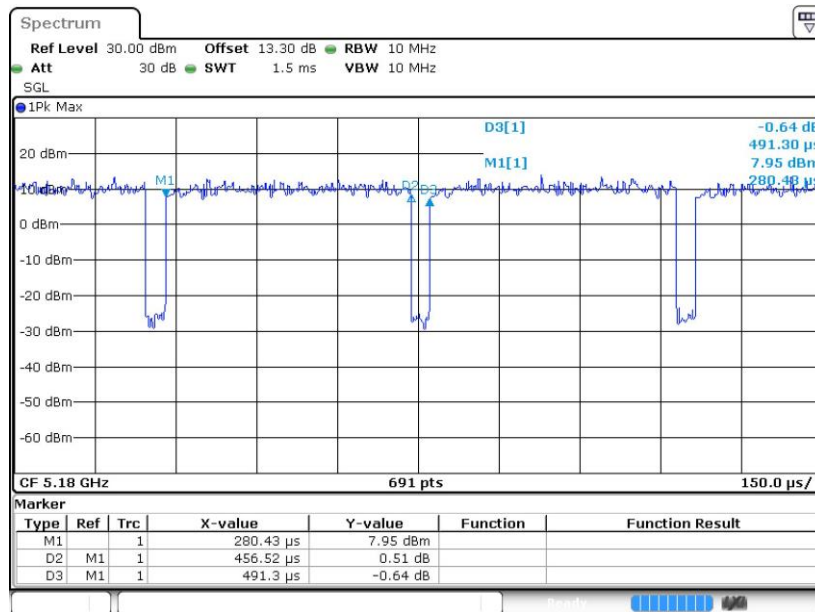
802.11ac VHT40



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802.11ac VHT80



Date: 25 AUG 2021 13:53:05