FCC RF Test Report

APPLICANT	:	Xiaomi Communications Co., Ltd.
EQUIPMENT	:	Mobile Phone
BRAND NAME	:	Redmi
MODEL NAME	:	A101XM
FCC ID	:	2AFZZK19KR
STANDARD	:	FCC Part 15 Subpart E §15.407
CLASSIFICATION	:	(NII) Unlicensed National Information Infrastructure
TEST DATE(S)	:	Aug. 25, 2021 ~ Sep. 17, 2021

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

Reviewed by: Jason Jia / Supervisor

Approved by: Alex Wang / Manager

ACCREDITED Cert #5145.02

Sporton International (Kunshan) Inc.
No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR122708-01E	Rev. 01	Initial issue of report	Sep. 22, 2021

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
-	2.1049 & 15.403(i)	26dB & 99% Bandwidth	-	Report only	1
3.1	15.407(a)	Maximum Conducted Output Power	≤ 24 dBm	Pass	-
-	15.407(a)	Power Spectral Density	≤ 11 dBm	Pass	1
3.2	15.407(b)	Unwanted Emissions	15.407(b) & 15.209(a)	Pass	Under limit 3.10 dB at 11159.16 MHz
3.3	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 12.84 dB at 15.146 MHz
3.4	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.5	15.203 & 15.407(a)	Antenna Requirement	15.203	Pass	-

Remark 1: Test items are performed on original report which can be referred to Sporton report number FR122708D.

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

Xiaomi Communications Co., Ltd.
#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

1.2 Manufacturer

Xiaomi Communications Co., Ltd.
#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Phone
Brand Name	Redmi
Model Name	A101XM
FCC ID	2AFZZK19KR
HW Version	P0.1
SW Version	MIUI13
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 : 15.33 dBm / 0.0341 W 802.11n HT20 : 15.18 dBm / 0.0330 W 802.11n HT40 : 14.89 dBm / 0.0308 W 802.11ac VHT20 : 15.07 dBm / 0.0321 W 802.11ac VHT40 : 14.75 dBm / 0.0299 W 802.11ac VHT80 : 13.95 dBm / 0.0248 W **<5260 MHz ~ 5320 MHz>** 802.11a : 14.99 dBm / 0.0316 W 802.11n HT20 : 15.21 dBm / 0.0332 W 802.11n HT40 : 15.17 dBm / 0.0329 W 802.11ac VHT20 : 15.21 dBm / 0.0332 W 802.11ac VHT40 : 15.11 dBm / 0.0324 W 802.11ac VHT80 : 14.00 dBm / 0.0251 W **<5500 MHz ~ 5720 MHz >** 802.11a : 15.35 dBm / 0.0343 W 802.11n HT20 : 15.10 dBm / 0.0324 W 802.11n HT40 : 15.15 dBm / 0.0327 W

	802.11ac VHT20 : 15.04 dBm / 0.0319 W 802.11ac VHT40 : 15.05 dBm / 0.0320 W 802.11ac VHT80 : 14.12 dBm / 0.0258 W
Antenna Type / Gain	**<5150 MHz ~ 5250 MHz>** PIFA Antenna with gain 0.74 dBi **<5250 MHz ~ 5350 MHz>** PIFA Antenna with gain 0.74 dBi **<5470 MHz ~ 5725 MHz>** PIFA Antenna with gain 0.15 dBi
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)

1.5 Modification of EUT

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

1.6 Re-use of Measured Data

1.6.1 Introduction Section

This application re-uses data collected on a similar device. The subject device of this application (Model: A101XM, FCC ID: 2AFZZK19KR) is electrically identical to the reference device (Model: XIG02, FCC ID: 2AFZZK19JR) for the portions of the circuitry corresponding to the data being re-used. Based on their similarity, the FCC Part 15E (equipment class: NII) reuse the original model's result and do spot-check, following the FCC KDB 484596 D01 v01.

The applicant takes full responsibility that the test data as referenced in this report represent compliance for this FCC ID: 2AFZZK19KR .

1.6.2 Model Difference Information

The **main** difference between FCC ID: 2AFZZK19JR and FCC ID: 2AFZZK19KR is that the two models support different WWAN bands /NFC / WIFI 5G U-NII-3.
Other differences and all the details of similarity and difference can be found in the confidential documents (A101XM_Operational Description of Product Equality Declaration).

1.6.3 Reference detail Section:

Rule Part	Equipment Class	Frequency Band (MHz)	Reference FCC ID(Parent)	Type Grant/ Permissive Change	Reference Title	FCC ID Filling (Variant)	Report Title/Section
15E	U-NII-1	5150~5250	2AFZZK19JR	Original Grant	FR122708D	2AFZZK19KR	All sections applicable except Power/ EIRP/RSE
	U-NII-2A	5250~5350	2AFZZK19JR	Original Grant	FR122708D	2AFZZK19KR	All sections applicable except Power/ EIRP/RSE
	U-NII-2C	5470~5725	2AFZZK19JR	Original Grant	FR122708D	2AFZZK19KR	All sections applicable except Power/ EIRP/RSE
	DFS	5250~5350 5470~5725	2AFZZK19JR	Original Grant	FR122708	2AFZZK19KR	All sections applicable

1.6.4 Spot Check Verification Data Section

Conducted power test against the variant model based on the worst-case condition from the original model was performed in this filing to demonstrate the test data from original model remains representative for the variant model

Summary for power spot check for each rule entry and technology is listed as below:

Test Item	Mode	2AFZZK19JR Worst Result	2AFZZK19KR Worst Result	Difference (dB)
Conducted Power (dBm)	11a, 5.2GHz	15.36	15.33	0.03
	11n HT20, 5.2GHz	15.35	15.18	0.17
	11n HT40, 5.2GHz	15.36	14.89	0.47
	11ac VHT80, 5.2GHz	14.00	13.95	0.05
	11a, 5.3GHz	15.07	14.99	0.08
	11n HT20, 5.3GHz	15.35	15.21	0.06
	11n HT40, 5.3GHz	15.25	15.17	0.08
	11ac VHT80, 5.3GHz	14.02	14.00	0.02
	11a, 5.5GHz	15.36	15.35	0.01
	11n HT20, 5.5GHz	15.12	15.10	0.02
	11n HT40, 5.5GHz	15.17	15.15	0.02
	11ac VHT80, 5.5GHz	14.15	14.12	0.03

Conclusion:
Based on the spot check test result, the test data from the original model is representative for the variant model. The power level and RSE spot check are shown within expected level compliant to limit line.

We are using power and EIRP measurements from the original parent model reports to list on the grant.

The same DFS detection is used in the variant. Hence, there is no spot check data for DFS.

We confirm that the test data reuse policy of FCC KDB 484596 D01 Referencing Test Data v01 has been followed and the test data as referenced from the parent model report represents compliance with new FCC ID.

1.7 Testing Location

Sporton International (Kunshan) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International (Kunshan) Inc.		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	CO01-KS 03CH05-KS TH01-KS	CN1257	314309

1.8 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH05-KS	AUDIX	E3	6.2009-8-24al
2.	CO01-KS	AUDIX	E3	6.2009-8-24

1.9 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.

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 the higher output power.

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

Co-location
GSM850 + 802.11a CH116

Test Cases	
AC Conducted Emission	Mode 1 : GSM 850 Idle + Bluetooth Link + WLAN Link(5G) + USB Cable(Charging from Adapter) + Earphone

Remark:

1. For Radiated Test Cases, The tests were performance with Adapter, Earphone, and USB Cable.

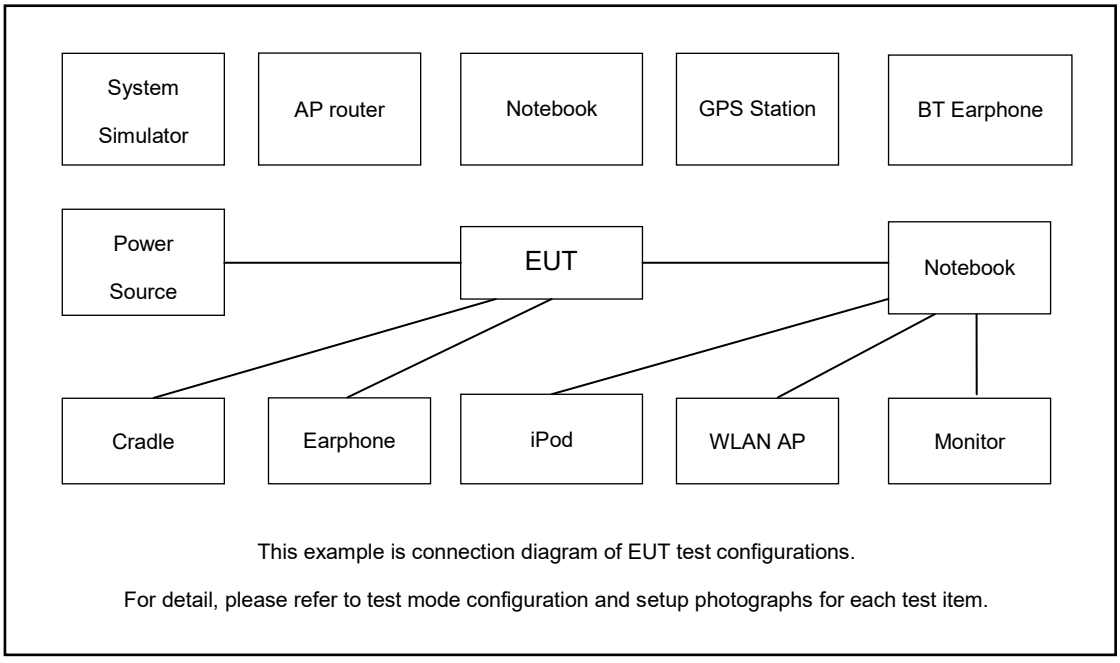
Ch. #		U-NII-1 : 5150-5250 MHz	U-NII-2A : 5250-5350 MHz	U-NII-2C : 5470-5725MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle		-	-	144

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
		802.11n 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 : 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



This example is connection diagram of EUT test configurations.

For detail, please refer to test mode configuration and setup photographs for each test item.

2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	LTE Base Station	Anritus	MT8821C	N/A	N/A	Unshielded, 1.8m
2.	WLAN AP	D-link	DIR-655	KA21R655B1	N/A	Unshielded, 1.8m
3.	Notebook	Lenovo	G480	QDS-BRCM1050I	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m
4.	Bluetooth Earphone	Xiaomi	LYEJ02LM	N/A	N/A	N/A
5.	SD Card	Kingston	8GB	N/A	N/A	N/A
6.	Earphone	Xiaomi	N/A	N/A	N/A	N/A
7.	Adapter	Xiaomi	N/A	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/receive.

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

3 Test Result

3.1 Maximum Conducted Output Power Measurement

3.1.1 Limit of Maximum Conducted Output Power

<FCC 14-30 CFR 15.407>

For 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 5.25–5.35 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 5.47–5.725 GHz band, the maximum conducted output power shall not exceed 250 mW or 11 + 10 log10 B, dBm, whichever power is less. The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, 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.

3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

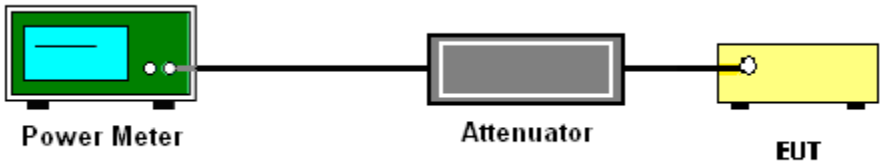
The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

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.

3.1.4 Test Setup



3.1.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

3.2 Unwanted Emissions Measurement

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

3.2.1 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 5470-5600 MHz and 5650-5725MHz band: all emissions outside of the 5470-5600 MHz and 5650-5725MHz band shall not exceed an EIRP of -27 dBm/MHz.

(2) Unwanted spurious emissions fallen in restricted bands shall comply with the general field strength limits as below table,

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

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

3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section G) Unwanted emissions measurement.

   (1) Procedure for Unwanted Emissions Measurements Below 1000MHz

   - RBW = 120 kHz
   - VBW = 300 kHz
   - Detector = Peak
   - Trace mode = max hold

   (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz

   - RBW = 1 MHz
   - VBW ≥ 3 MHz
   - Detector = Peak
   - Sweep time = auto
   - Trace mode = max hold

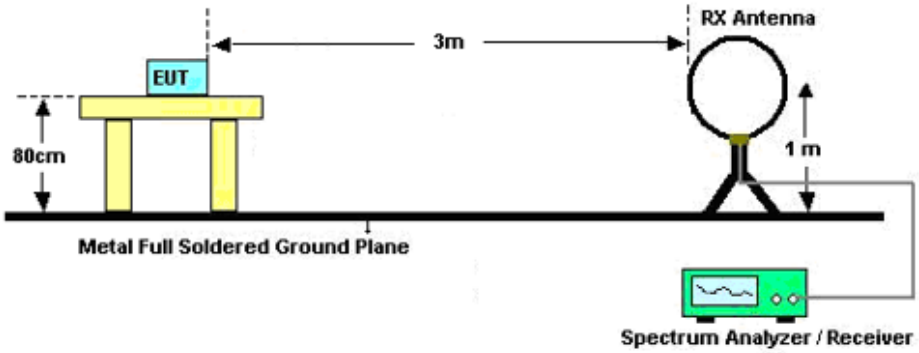
   (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

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

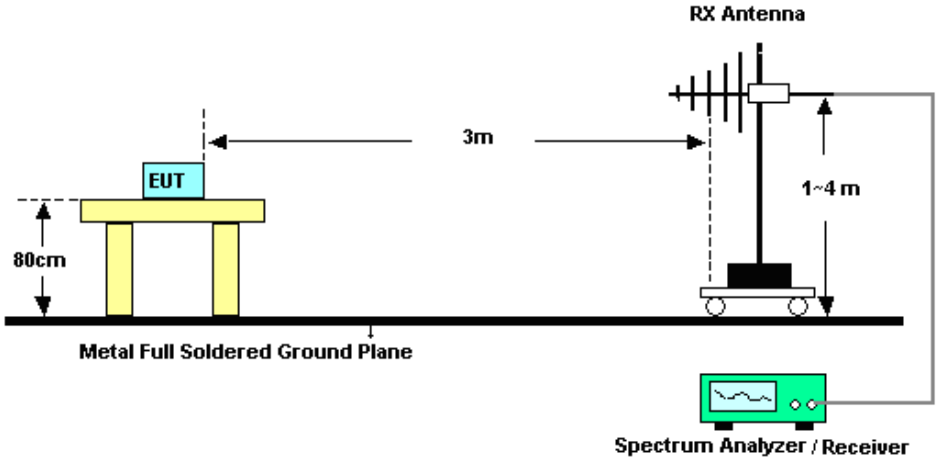
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband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

3.2.4 Test Setup

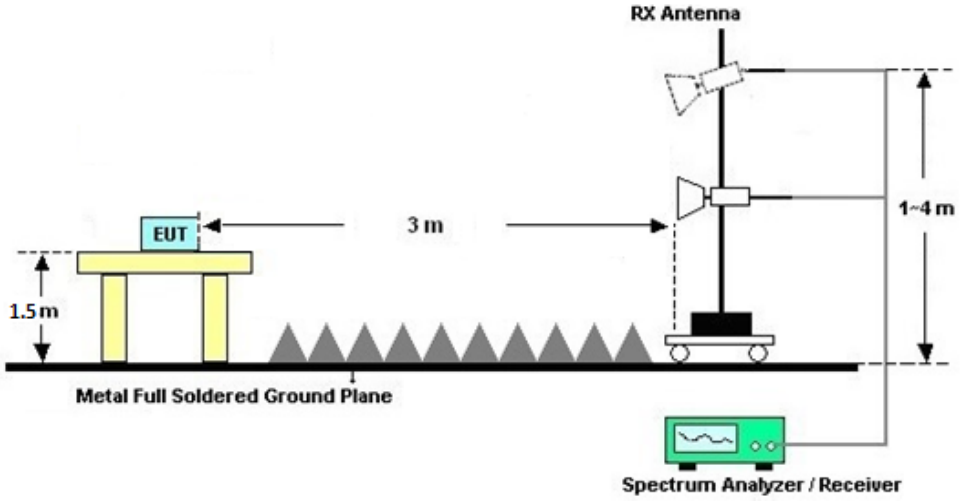
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.2.5 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.

3.2.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C.

3.2.7 Duty Cycle

Please refer to Appendix D.

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

Please refer to Appendix C.

3.3 AC Conducted Emission Measurement

3.3.1 Limit of AC Conducted Emission

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

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

*Decreases with the logarithm of the frequency.

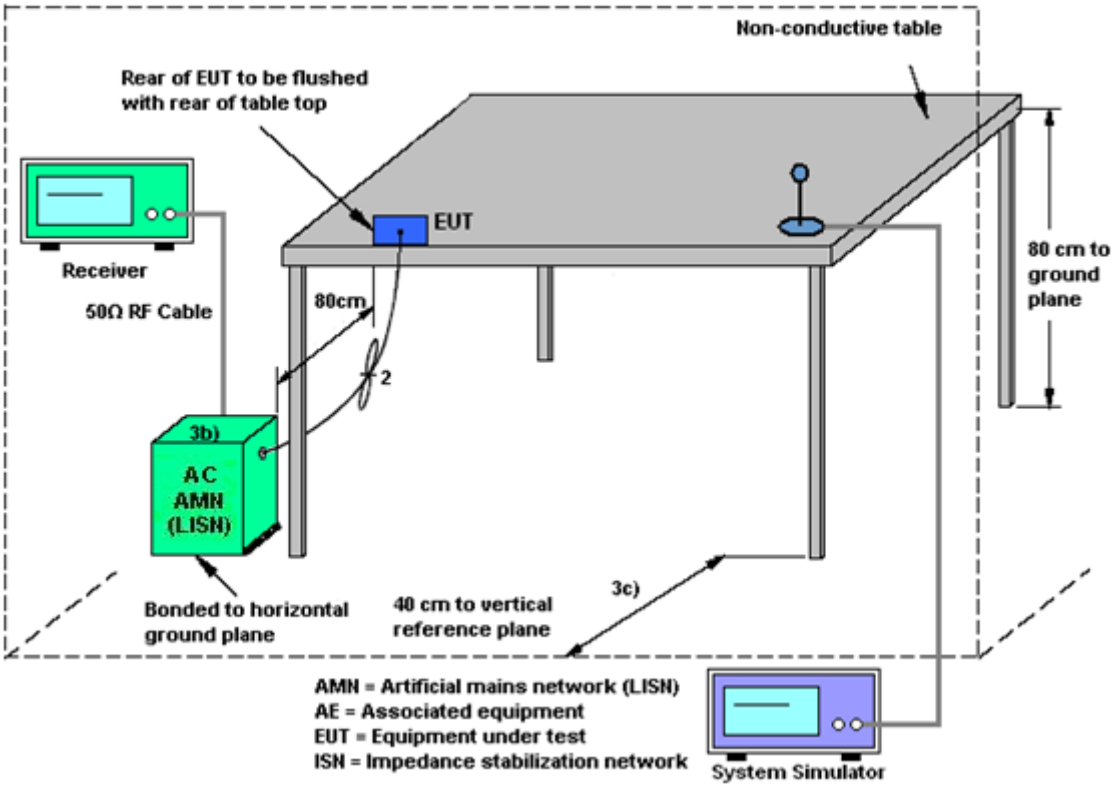
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

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

3.3.4 Test Setup



3.3.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.4 Automatically Discontinue Transmission

3.4.1 Limit of Automatically Discontinue Transmission

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

3.4.2 Measuring Instruments

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

3.4.3 Test Result of Automatically Discontinue Transmission

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.

3.5 Antenna Requirements

3.5.1 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.

3.5.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.5.3 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	101040	10Hz~40GHz	Nov. 01, 2020	Sep. 10, 2021	Oct. 31, 2021	Conducted (TH01-KS)
Pulse Power Senor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 07, 2021	Sep. 10, 2021	Jan. 06, 2022	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 07, 2021	Sep. 10, 2021	Jan. 06, 2022	Conducted (TH01-KS)
EMI Test Receiver	Keysight	N9038A	MY56400004	3Hz~8.5GHz;Max 30dBm	Oct. 17, 2020	Aug. 25, 2021	Oct. 16, 2021	Radiation (03CH05-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz-44G,MAX 30dB	Apr. 13, 2021	Aug. 25, 2021	Apr. 12, 2022	Radiation (03CH05-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Nov. 01, 2020	Aug. 25, 2021	Oct. 31, 2021	Radiation (03CH05-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	Jun. 04 ,2021	Aug. 25, 2021	Jun. 03, 2022	Radiation (03CH05-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00218652	1GHz~18GHz	Apr. 24, 2021	Aug. 25, 2021	Apr. 23, 2022	Radiation (03CH05-KS)
SHF-EHF Horn	Com-power	AH-840	101115	18GHz~40GHz	Nov. 10, 2020	Aug. 25, 2021	Nov. 09, 2021	Radiation (03CH05-KS)
Amplifier	SONOMA	310N	187289	9KHz-1GHz	Apr. 12, 2021	Aug. 25, 2021	Apr. 11, 2022	Radiation (03CH05-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 07, 2021	Aug. 25, 2021	Jan. 06, 2022	Radiation (03CH05-KS)
high gain Amplifier	MITEQ	AMF-7D-00101800-30-10P	2012228	1Ghz-18Ghz	Oct. 17, 2020	Aug. 25, 2021	Oct. 16, 2021	Radiation (03CH05-KS)
Amplifier	Keysight	83017A	MY53270316	500MHz~26.5GHz	Oct. 17, 2020	Aug. 25, 2021	Oct. 16, 2021	Radiation (03CH05-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Aug. 25, 2021	NCR	Radiation (03CH05-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Aug. 25, 2021	NCR	Radiation (03CH05-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Aug. 25, 2021	NCR	Radiation (03CH05-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	Apr. 21, 2021	Sep. 17, 2021	Apr. 20, 2022	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060103	9kHz~30MHz	Oct. 17, 2020	Sep. 17, 2021	Oct. 16, 2021	Conduction (CO01-KS)
AC LISN	R&S	ENV216	100334	9kHz~30MHz	Oct. 17, 2020	Sep. 17, 2021	Oct. 16, 2021	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	AC 0V~300V, 45Hz~1000Hz	Oct. 17, 2020	Sep. 17, 2021	Oct. 16, 2021	Conduction (CO01-KS)

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))	**2.94dB**

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

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

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))	**5.0dB**

Appendix A. Conducted Test Results

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Liu Qiu Qiu	Temperature:	21~25	°C
Test Date:	2021/09/10	Relative Humidity:	51~54	%

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	13.77	24.00	0.74		Pass
11a	6Mbps	1	44	5220	0.08	15.03	24.00	0.74		Pass
11a	6Mbps	1	48	5240	0.08	15.33	24.00	0.74		Pass
HT20	MCS0	1	36	5180	0.08	14.09	24.00	0.74		Pass
HT20	MCS0	1	44	5220	0.08	15.18	24.00	0.74		Pass
HT20	MCS0	1	48	5240	0.08	15.07	24.00	0.74		Pass
HT40	MCS0	1	38	5190	0.16	14.89	24.00	0.74		Pass
HT40	MCS0	1	46	5230	0.16	14.71	24.00	0.74		Pass
VHT20	MCS0	1	36	5180	0.10	14.05	24.00	0.74		Pass
VHT20	MCS0	1	44	5220	0.10	15.07	24.00	0.74		Pass
VHT20	MCS0	1	48	5240	0.10	14.98	24.00	0.74		Pass
VHT40	MCS0	1	38	5190	0.16	14.75	24.00	0.74		Pass
VHT40	MCS0	1	46	5230	0.16	14.67	24.00	0.74		Pass
VHT80	MCS0	1	42	5210	0.32	13.95	24.00	0.74		Pass

TEST RESULTS DATA
Average Power Table

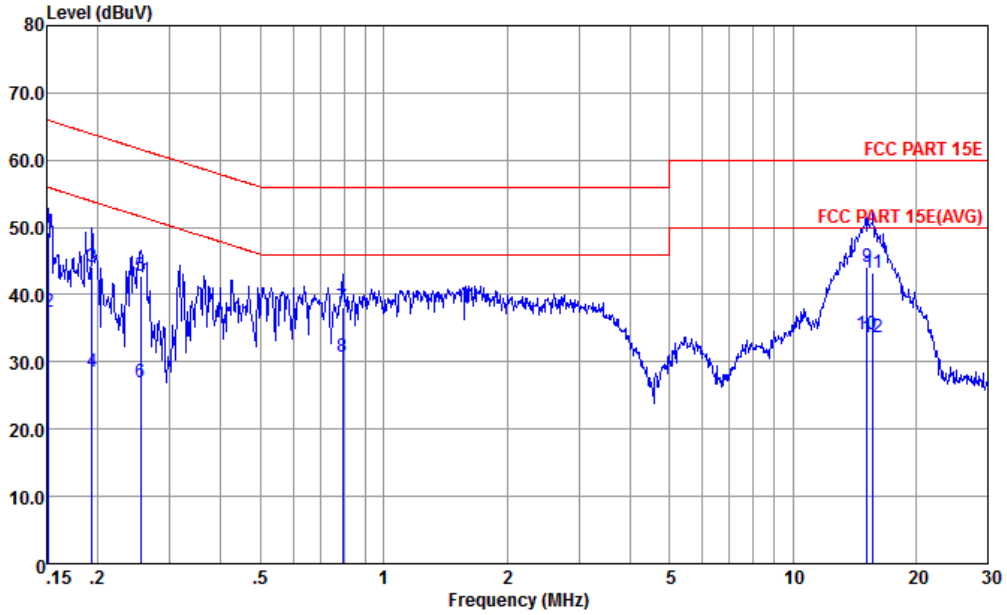
U-NII-2A										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6M bps	1	52	5260	0.08	14.99	23.98	0.74	26.99	Pass
11a	6M bps	1	60	5300	0.08	13.86	23.98	0.74	26.99	Pass
11a	6M bps	1	64	5320	0.08	13.56	23.98	0.74	26.99	Pass
HT20	MCS 0	1	52	5260	0.08	15.21	23.98	0.74	26.99	Pass
HT20	MCS 0	1	60	5300	0.08	14.99	23.98	0.74	26.99	Pass
HT20	MCS 0	1	64	5320	0.08	13.98	23.98	0.74	26.99	Pass
HT40	MCS 0	1	54	5270	0.16	15.17	23.98	0.74	26.99	Pass
HT40	MCS 0	1	62	5310	0.16	14.70	23.98	0.74	26.99	Pass
VHT20	MCS 0	1	52	5260	0.10	15.21	23.98	0.74	26.99	Pass
VHT20	MCS 0	1	60	5300	0.10	14.90	23.98	0.74	26.99	Pass
VHT20	MCS 0	1	64	5320	0.10	13.96	23.98	0.74	26.99	Pass
VHT40	MCS 0	1	54	5270	0.16	15.11	23.98	0.74	26.99	Pass
VHT40	MCS 0	1	62	5310	0.16	14.68	23.98	0.74	26.99	Pass
VHT80	MCS 0	1	58	5290	0.32	14.00	23.98	0.74	26.99	Pass

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	14.99	23.98	0.15	26.99	Pass
11a	6M bps	1	116	5580	0.08	14.60	23.98	0.15	26.99	Pass
11a	6M bps	1	140	5700	0.08	15.35	23.98	0.15	26.99	Pass
11a	6M bps	1	144	5720	0.08	15.13	23.98	0.15	26.99	Pass
HT20	MCS 0	1	100	5500	0.08	14.89	23.98	0.15	26.99	Pass
HT20	MCS 0	1	116	5580	0.08	14.71	23.98	0.15	26.99	Pass
HT20	MCS 0	1	140	5700	0.08	15.10	23.98	0.15	26.99	Pass
HT20	MCS 0	1	144	5720	0.08	15.03	23.98	0.15	26.99	Pass
HT40	MCS 0	1	102	5510	0.16	15.07	23.98	0.15	26.99	Pass
HT40	MCS 0	1	110	5550	0.16	15.06	23.98	0.15	26.99	Pass
HT40	MCS 0	1	134	5670	0.16	15.15	23.98	0.15	26.99	Pass
HT40	MCS 0	1	142	5710	0.16	14.95	23.98	0.15	26.99	Pass
VHT20	MCS 0	1	100	5500	0.10	14.88	23.98	0.15	26.99	Pass
VHT20	MCS 0	1	116	5580	0.10	14.71	23.98	0.15	26.99	Pass
VHT20	MCS 0	1	140	5700	0.10	15.01	23.98	0.15	26.99	Pass
VHT20	MCS 0	1	144	5720	0.10	15.04	23.98	0.15	26.99	Pass
VHT40	MCS 0	1	102	5510	0.16	15.04	23.98	0.15	26.99	Pass
VHT40	MCS 0	1	110	5550	0.16	15.00	23.98	0.15	26.99	Pass
VHT40	MCS 0	1	134	5670	0.16	15.05	23.98	0.15	26.99	Pass
VHT40	MCS 0	1	142	5710	0.16	14.91	23.98	0.15	26.99	Pass
VHT80	MCS 0	1	106	5530	0.32	14.12	23.98	0.15	26.99	Pass
VHT80	MCS 0	1	122	5610	0.32	13.99	23.98	0.15	26.99	Pass
VHT80	MCS 0	1	138	5690	0.32	14.02	23.98	0.15	26.99	Pass

Appendix B. AC Conducted Emission Test Results

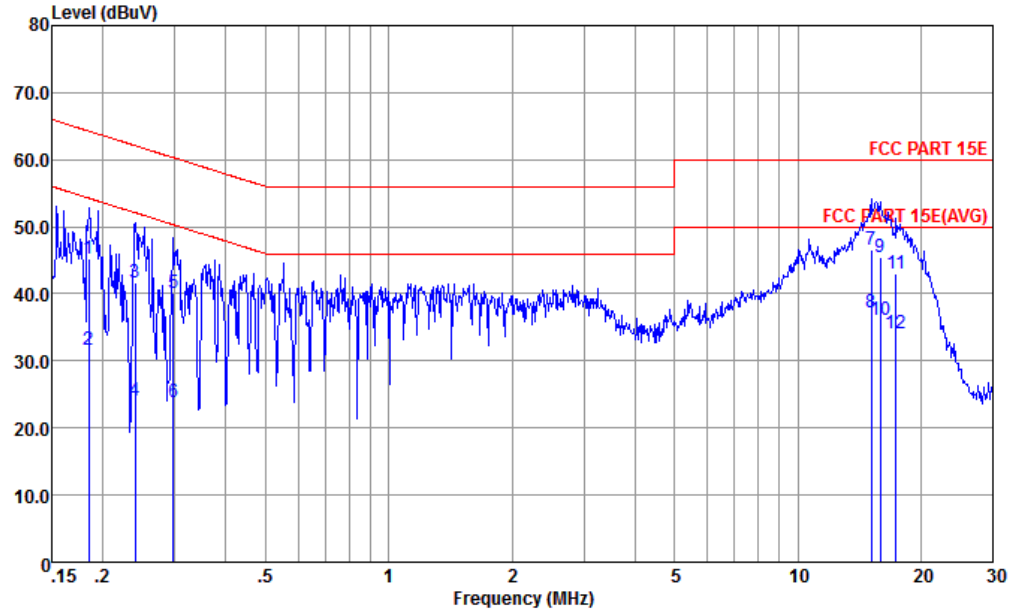
Test Engineer :	Amos Zhang	**Temperature :**	25.3~26.2℃
		Relative Humidity :	38~40%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-KS
Condition : FCC PART 15E LISN-L-060105-CN02 LINE

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.152	49.15	-16.76	65.91	38.60	0.07	10.48	QP
2		0.152	37.45	-18.46	55.91	26.90	0.07	10.48	Average
3		0.193	44.06	-19.83	63.89	33.59	0.09	10.38	QP
4		0.193	28.56	-25.33	53.89	18.09	0.09	10.38	Average
5		0.255	42.73	-18.87	61.60	32.30	0.10	10.33	QP
6		0.255	26.93	-24.67	51.60	16.50	0.10	10.33	Average
7		0.792	38.00	-18.00	56.00	27.60	0.16	10.24	QP
8	*	0.792	30.70	-15.30	46.00	20.30	0.16	10.24	Average
9		15.226	44.08	-15.92	60.00	32.10	1.58	10.40	QP
10		15.226	34.08	-15.92	50.00	22.10	1.58	10.40	Average
11		15.718	43.25	-16.75	60.00	31.20	1.64	10.41	QP
12		15.718	33.65	-16.35	50.00	21.60	1.64	10.41	Average

Test Engineer :	Amos Zhang	**Temperature :**	25.3~26.2℃
		Relative Humidity :	38~40%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-KS
Condition : FCC PART 15E LISN-N-060105-CN02 NEUTRAL

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.184	45.16	-19.12	64.28	34.60	0.16	10.40	QP
2		0.184	31.66	-22.62	54.28	21.10	0.16	10.40	Average
3		0.240	41.62	-20.46	62.08	31.10	0.18	10.34	QP
4		0.240	24.12	-27.96	52.08	13.60	0.18	10.34	Average
5		0.297	40.10	-20.22	60.32	29.60	0.19	10.31	QP
6		0.297	23.80	-26.52	50.32	13.30	0.19	10.31	Average
7		15.146	46.46	-13.54	60.00	34.10	1.96	10.40	QP
8	*	15.146	37.16	-12.84	50.00	24.80	1.96	10.40	Average
9		15.885	45.42	-14.58	60.00	32.89	2.11	10.42	QP
10		15.885	36.12	-13.88	50.00	23.59	2.11	10.42	Average
11		17.383	42.92	-17.08	60.00	30.10	2.37	10.45	QP
12		17.383	34.02	-15.98	50.00	21.20	2.37	10.45	Average

Note:

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

Appendix C. Radiated Spurious Emission

UNII-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		5134.24	57.94	-16.06	74	43.99	34.6	11.58	32.23	100	119	P	H
		5150	47.32	-6.68	54	33.33	34.62	11.6	32.23	100	119	A	H
	*	5176	102.89	-	-	88.83	34.67	11.63	32.24	100	119	P	H
		5176	96.11	-	-	82.05	34.67	11.63	32.24	100	119	A	H
		5114.4	57.94	-16.06	74	44.02	34.58	11.56	32.22	100	84	P	V
		5150	46.71	-7.29	54	32.72	34.62	11.6	32.23	100	84	A	V
	*	5182	101.07	-	-	87.01	34.67	11.63	32.24	100	84	P	V
		5182	94.38	-	-	80.32	34.67	11.63	32.24	100	84	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-1 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 36 5180MHz		10358.36	48.26	-20.04	68.3	54.43	37.58	16.93	60.68	300	0	P	H
		10363.36	52.32	-15.98	68.3	58.46	37.59	16.95	60.68	300	0	P	V
802.11a CH 44 5220MHz		10438.44	49.85	-18.45	68.3	55.83	37.65	17.03	60.66	300	0	P	H
		10443.44	56.21	-12.09	68.3	62.19	37.65	17.03	60.66	300	0	P	V
802.11a CH 48 5240MHz		10478.47	49.89	-18.41	68.3	55.76	37.69	17.09	60.65	300	0	P	H
		10483.48	61.07	-7.23	68.3	66.94	37.69	17.09	60.65	100	93	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-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)	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		5132.32	58.23	-15.77	74	44.28	34.6	11.58	32.23	105	115	P	H
		5149.12	47.43	-6.57	54	33.44	34.62	11.6	32.23	105	115	A	H
	*	5182	104.01	-	-	89.95	34.67	11.63	32.24	105	115	P	H
		5182	96.33	-	-	82.27	34.67	11.63	32.24	105	115	A	H
		5114.72	58.18	-15.82	74	44.26	34.58	11.56	32.22	100	99	P	V
		5149.12	46.99	-7.01	54	33	34.62	11.6	32.23	100	99	A	V
	*	5182	100.74	-	-	86.68	34.67	11.63	32.24	100	99	P	V
		5182	93.68	-	-	79.62	34.67	11.63	32.24	100	99	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-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)	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		10358.36	50.61	-17.69	68.3	56.78	37.58	16.93	60.68	300	0	P	H
		10358.36	52.91	-15.39	68.3	59.08	37.58	16.93	60.68	300	0	P	V
802.11n HT20 CH 44 5220MHz		10443.44	49.43	-18.87	68.3	55.41	37.65	17.03	60.66	300	0	P	H
		10438.44	57.32	-10.98	68.3	63.3	37.65	17.03	60.66	300	0	P	V
802.11n HT20 CH 48 5240MHz		10478.47	51.01	-17.29	68.3	56.88	37.69	17.09	60.65	300	0	P	H
		10483.48	56.31	-11.99	68.3	62.18	37.69	17.09	60.65	300	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-1 5150~5250MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		5147.2	58.78	-15.22	74	44.79	34.62	11.6	32.23	100	117	P	H
		5149.76	49.88	-4.12	54	35.89	34.62	11.6	32.23	100	117	A	H
	*	5194	102.04	-	-	87.93	34.7	11.65	32.24	100	117	P	H
		5194	93.53	-	-	79.42	34.7	11.65	32.24	100	117	A	H
		5370.66	55.89	-18.11	74	41.64	34.7	11.82	32.27	100	117	P	H
		5391.36	46.12	-7.88	54	31.86	34.7	11.84	32.28	100	117	A	H
		5111.2	57.27	-16.73	74	43.35	34.58	11.56	32.22	286	55	P	V
		5149.28	48.22	-5.78	54	34.23	34.62	11.6	32.23	286	55	A	V
	*	5176	98.89	-	-	84.83	34.67	11.63	32.24	286	55	P	V
		5176	91.54	-	-	77.48	34.67	11.63	32.24	286	55	A	V
		5391.9	55.65	-18.35	74	41.39	34.7	11.84	32.28	286	55	P	V
		5398.02	46.04	-7.96	54	31.76	34.7	11.86	32.28	286	55	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-1 5150~5250MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		10378.38	45.57	-22.73	68.3	51.66	37.61	16.97	60.67	300	0	P	H
		10378.38	50.7	-17.6	68.3	56.79	37.61	16.97	60.67	300	0	P	V
802.11n HT40 CH 46 5230MHz		10458.46	46.42	-21.88	68.3	52.37	37.66	17.05	60.66	300	0	P	H
		10458.46	52.97	-15.33	68.3	58.92	37.66	17.05	60.66	300	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-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)	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		5142.08	58.97	-15.03	74	44.98	34.62	11.6	32.23	107	118	P	H
		5148.64	49.63	-4.37	54	35.64	34.62	11.6	32.23	107	118	A	H
	*	5218	97.64	-	-	83.51	34.7	11.67	32.24	107	118	P	H
		5218	89.74	-	-	75.61	34.7	11.67	32.24	107	118	A	H
		5384.7	55.61	-18.39	74	41.35	34.7	11.84	32.28	107	118	P	H
		5388.12	46.27	-7.73	54	32.01	34.7	11.84	32.28	107	118	A	H
		5141.12	57.37	-16.63	74	43.38	34.62	11.6	32.23	331	53	P	V
		5143.36	48.07	-5.93	54	34.08	34.62	11.6	32.23	331	53	A	V
	*	5218	96.44	-	-	82.31	34.7	11.67	32.24	331	53	P	V
		5218	88.4	-	-	74.27	34.7	11.67	32.24	331	53	A	V
		5394.24	55.03	-18.97	74	40.77	34.7	11.84	32.28	331	53	P	V
		5388.84	46.04	-7.96	54	31.78	34.7	11.84	32.28	331	53	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-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)	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		10418.42	46.52	-21.78	68.3	52.55	37.63	17.01	60.67	300	0	P	H
		10418.42	48.38	-19.92	68.3	54.41	37.63	17.01	60.67	300	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-2A - 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 64 5320MHz		5364.5	56.79	-17.21	74	42.54	34.7	11.82	32.27	100	114	P	H
		5358.4	46.56	-7.44	54	32.33	34.7	11.8	32.27	100	114	A	H
	*	5320	104.61	-	-	90.4	34.7	11.77	32.26	100	114	P	H
		5320	96.98	-	-	82.77	34.7	11.77	32.26	100	114	A	H
		5361.3	56.83	-17.17	74	42.58	34.7	11.82	32.27	100	199	P	V
		5358.3	46.15	-7.85	54	31.92	34.7	11.8	32.27	100	199	A	V
	*	5320	101.67	-	-	87.46	34.7	11.77	32.26	100	199	P	V
		5320	94.75	-	-	80.54	34.7	11.77	32.26	100	199	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 52 5260MHz		10523.52	51.08	-17.22	68.3	56.9	37.71	17.12	60.65	300	0	P	H
		10523.52	56.5	-11.8	68.3	62.32	37.71	17.12	60.65	300	0	P	V
802.11a CH 60 5300MHz		10600.01	49.84	-24.16	74	55.56	37.74	17.17	60.63	300	0	P	H
		10603.6	60.77	-13.23	74	66.49	37.74	17.17	60.63	100	45	P	V
		10603.6	50.83	-3.17	54	56.55	37.74	17.17	60.63	100	45	A	V
802.11a CH 64 5320MHz		10638.63	53.85	-20.15	74	59.51	37.76	17.2	60.62	100	95	P	H
		10638.63	43.29	-10.71	54	48.95	37.76	17.2	60.62	100	95	A	H
		10638.63	60.46	-13.54	74	66.12	37.76	17.2	60.62	100	46	P	V
		10638.63	50.88	-3.12	54	56.54	37.76	17.2	60.62	100	46	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 64 5320MHz		5371.2	57.05	-16.95	74	42.8	34.7	11.82	32.27	100	118	P	H
		5358.4	46.74	-7.26	54	32.51	34.7	11.8	32.27	100	118	A	H
	*	5320	103.97	-	-	89.76	34.7	11.77	32.26	100	118	P	H
		5320	96.64	-	-	82.43	34.7	11.77	32.26	100	118	A	H
		5368.4	55.75	-18.25	74	41.5	34.7	11.82	32.27	100	80	P	V
		5358.2	45.68	-8.32	54	31.45	34.7	11.8	32.27	100	80	A	V
	*	5320	100.9	-	-	86.69	34.7	11.77	32.26	100	80	P	V
		5320	93.65	-	-	79.44	34.7	11.77	32.26	100	80	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-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)	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		10518.52	52.14	-16.16	68.3	57.96	37.71	17.12	60.65	300	0	P	H
		10518.52	58.17	-10.13	68.3	63.99	37.71	17.12	60.65	300	0	P	V
802.11n HT20 CH 60 5300MHz		10600.01	56.17	-17.83	74	61.89	37.74	17.17	60.63	100	173	P	H
		10600.01	45.01	-8.99	54	50.73	37.74	17.17	60.63	100	173	A	H
		10603.6	62.71	-11.29	74	68.43	37.74	17.17	60.63	100	46	P	V
		10603.6	50.78	-3.22	54	56.5	37.74	17.17	60.63	100	46	A	V
802.11n HT20 CH 64 5320MHz		10638.63	54.65	-19.35	74	60.31	37.76	17.2	60.62	100	75	P	H
		10638.63	43.57	-10.43	54	49.23	37.76	17.2	60.62	100	75	A	H
		10638.63	61.41	-12.59	74	67.07	37.76	17.2	60.62	100	46	P	V
		10638.63	50.43	-3.57	54	56.09	37.76	17.2	60.62	100	46	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-2A 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 62 5310MHz		5127.52	56.92	-17.08	74	42.97	34.6	11.58	32.23	100	118	P	H
		5101.76	47.26	-6.74	54	33.39	34.55	11.54	32.22	100	118	A	H
	*	5314	102.17	-	-	87.96	34.7	11.77	32.26	100	118	P	H
		5314	94.6	-	-	80.39	34.7	11.77	32.26	100	118	A	H
		5363.6	58.57	-15.43	74	44.32	34.7	11.82	32.27	100	118	P	H
		5350.4	50.43	-3.57	54	36.2	34.7	11.8	32.27	100	118	A	H
		5133.6	56.34	-17.66	74	42.39	34.6	11.58	32.23	101	77	P	V
		5104.8	47.03	-6.97	54	33.16	34.55	11.54	32.22	101	77	A	V
	*	5314	99.77	-	-	85.56	34.7	11.77	32.26	101	77	P	V
		5314	91.51	-	-	77.3	34.7	11.77	32.26	101	77	A	V
		5354.2	57.22	-16.78	74	42.99	34.7	11.8	32.27	101	77	P	V
		5350	48.31	-5.69	54	34.08	34.7	11.8	32.27	101	77	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-2A 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 HT40 CH 54 5270MHz		10543.54	49.97	-18.33	68.3	55.77	37.71	17.13	60.64	300	0	P	H
		10538.54	54.37	-13.93	68.3	60.17	37.71	17.13	60.64	300	0	P	V
802.11n HT40 CH 62 5310MHz		10618.62	52.05	-21.95	74	57.74	37.75	17.18	60.62	100	172	P	H
		10618.62	45.46	-8.54	54	51.15	37.75	17.18	60.62	100	172	A	H
		10618.62	57.59	-16.41	74	63.28	37.75	17.18	60.62	107	45	P	V
		10618.62	50.44	-3.56	54	56.13	37.75	17.18	60.62	107	45	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-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)	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		5117.44	56.94	-17.06	74	43.03	34.58	11.56	32.23	100	118	P	H
		5100.64	47.36	-6.64	54	33.49	34.55	11.54	32.22	100	118	A	H
	*	5296	98.13	-	-	83.94	34.7	11.75	32.26	100	118	P	H
		5296	89.83	-	-	75.64	34.7	11.75	32.26	100	118	A	H
		5376.5	58.61	-15.39	74	44.37	34.7	11.82	32.28	100	118	P	H
		5369	49.67	-4.33	54	35.42	34.7	11.82	32.27	100	118	A	H
		5127.04	56.13	-17.87	74	42.18	34.6	11.58	32.23	307	52	P	V
		5110.88	47.19	-6.81	54	33.27	34.58	11.56	32.22	307	52	A	V
	*	5284	95.61	-	-	81.44	34.7	11.73	32.26	307	52	P	V
		5284	87.6	-	-	73.43	34.7	11.73	32.26	307	52	A	V
		5378.4	56.84	-17.16	74	42.58	34.7	11.84	32.28	307	52	P	V
		5377.1	47.38	-6.62	54	33.14	34.7	11.82	32.28	307	52	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-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)	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		10578.58	46.72	-21.58	68.3	52.47	37.73	17.15	60.63	300	0	P	H
		10578.58	52.04	-16.26	68.3	57.79	37.73	17.15	60.63	300	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-2C - 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		5455.44	58	-16	74	43.68	34.7	11.91	32.29	100	115	P	H
		5462.16	58.03	-10.27	68.3	43.71	34.7	11.91	32.29	100	115	P	H
		5459.76	46.99	-7.01	54	32.67	34.7	11.91	32.29	100	115	A	H
	*	5500	104.3	-	-	89.94	34.7	11.96	32.3	100	115	P	H
		5500	96.97	-	-	82.61	34.7	11.96	32.3	100	115	A	H
		5454.96	56.79	-17.21	74	42.47	34.7	11.91	32.29	100	282	P	V
		5467.28	56.44	-11.86	68.3	42.1	34.7	11.93	32.29	100	282	P	V
		5460	46.55	-7.45	54	32.23	34.7	11.91	32.29	100	282	A	V
	*	5500	103.45	-	-	89.09	34.7	11.96	32.3	100	282	P	V
		5500	95.95	-	-	81.59	34.7	11.96	32.3	100	282	A	V
802.11a CH 140 5700MHz		5733.08	58.24	-10.06	68.3	43.27	35.08	12.15	32.26	100	113	P	H
	*	5698	105.21	-	-	90.38	34.97	12.12	32.26	100	113	P	H
		5698	97.5	-	-	82.67	34.97	12.12	32.26	100	113	A	H
		5725.64	57.44	-10.86	68.3	42.47	35.08	12.15	32.26	100	82	P	V
	*	5698	103.39	-	-	88.56	34.97	12.12	32.26	100	82	P	V
		5698	95.78	-	-	80.95	34.97	12.12	32.26	100	82	A	V

Remark

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

UNII-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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a		11004	49.64	-24.36	74	54.86	37.9	17.42	60.54	300	0	P	H
CH 100		10999	59.37	-14.63	74	64.59	37.9	17.42	60.54	100	26	P	V
5500MHz		10999	48.62	-5.38	54	53.84	37.9	17.42	60.54	100	26	A	V
802.11a		11159.16	50.19	-23.81	74	55.2	38	17.49	60.5	300	0	P	H
CH 116		11159.16	60.53	-13.47	74	65.54	38	17.49	60.5	109	115	P	V
5580MHz		11159.16	50.9	-3.1	54	55.91	38	17.49	60.5	109	115	A	V
802.11a		11399.39	50.08	-23.92	74	54.8	38.14	17.59	60.45	300	0	P	H
CH 140		17106	57.65	-10.65	68.3	51.81	42.42	21.5	58.08	100	0	P	H
5700MHz		11399.39	58.08	-15.92	74	62.8	38.14	17.59	60.45	100	304	P	V
		11399.39	47.95	-6.05	54	52.67	38.14	17.59	60.45	100	304	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5454.8	57.82	-16.18	74	43.5	34.7	11.91	32.29	100	111	P	H
		5463.6	57.64	-10.66	68.3	43.3	34.7	11.93	32.29	100	111	P	H
		5457.36	47.69	-6.31	54	33.37	34.7	11.91	32.29	100	111	A	H
802.11n	*	5500	105.67	-	-	91.31	34.7	11.96	32.3	100	111	P	H
HT20		5500	98	-	-	83.64	34.7	11.96	32.3	100	111	A	H
CH 100		5454.64	57.93	-16.07	74	43.61	34.7	11.91	32.29	100	97	P	V
5500MHz		5466.32	57.61	-10.69	68.3	43.27	34.7	11.93	32.29	100	97	P	V
		5459.28	47.03	-6.97	54	32.71	34.7	11.91	32.29	100	97	A	V
	*	5500	103.98	-	-	89.62	34.7	11.96	32.3	100	97	P	V
		5500	95.86	-	-	81.5	34.7	11.96	32.3	100	97	A	V
		5726.36	58.4	-9.9	68.3	43.43	35.08	12.15	32.26	106	116	P	H
802.11n	*	5698	104.44	-	-	89.61	34.97	12.12	32.26	106	116	P	H
HT20		5698	97.19	-	-	82.36	34.97	12.12	32.26	106	116	A	H
CH 140		5731.64	58.54	-9.76	68.3	43.57	35.08	12.15	32.26	100	95	P	V
5700MHz	*	5698	103.26	-	-	88.43	34.97	12.12	32.26	100	95	P	V
		5698	96.2	-	-	81.37	34.97	12.12	32.26	100	95	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		11004	54.02	-19.98	74	59.24	37.9	17.42	60.54	100	347	P	H
HT20		11004	43.13	-10.87	54	48.35	37.9	17.42	60.54	100	347	A	H
CH 100		10999	59.63	-14.37	74	64.85	37.9	17.42	60.54	100	24	P	V
5500MHz		10999	47.91	-6.09	54	53.13	37.9	17.42	60.54	100	24	A	V
802.11n		11159.16	53.64	-20.36	74	58.65	38	17.49	60.5	100	24	P	H
HT20		11159.16	42.51	-11.49	54	47.52	38	17.49	60.5	100	24	A	H
CH 116		11159.16	61.95	-12.05	74	66.96	38	17.49	60.5	115	115	P	V
5580MHz		11159.16	50.05	-3.95	54	55.06	38	17.49	60.5	115	115	A	V
802.11n		11394.39	48.89	-25.11	74	53.64	38.13	17.58	60.46	300	0	P	H
HT20		17106	56.91	-11.39	68.3	51.07	42.42	21.5	58.08	100	0	P	H
CH 140		11399.39	59.45	-14.55	74	64.17	38.14	17.59	60.45	100	304	P	V
5700MHz		11399.39	46.95	-7.05	54	51.67	38.14	17.59	60.45	100	304	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-2C - 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		5453.68	59.72	-14.28	74	45.4	34.7	11.91	32.29	100	115	P	H
		5465.84	59.47	-8.83	68.3	45.13	34.7	11.93	32.29	100	115	P	H
		5459.12	50.08	-3.92	54	35.76	34.7	11.91	32.29	100	115	A	H
	*	5512	102.96	-	-	88.59	34.7	11.96	32.29	100	115	P	H
		5512	94.56	-	-	80.19	34.7	11.96	32.29	100	115	A	H
		5760.6	56.94	-11.36	68.3	41.82	35.19	12.18	32.25	100	115	P	H
		5454.8	57.59	-16.41	74	43.27	34.7	11.91	32.29	100	96	P	V
		5465.68	58.63	-9.67	68.3	44.29	34.7	11.93	32.29	100	96	P	V
		5458	49.47	-4.53	54	35.15	34.7	11.91	32.29	100	96	A	V
	*	5512	102.51	-	-	88.14	34.7	11.96	32.29	100	96	P	V
		5512	93.85	-	-	79.48	34.7	11.96	32.29	100	96	A	V
		5753.4	56.43	-11.87	68.3	41.31	35.19	12.18	32.25	100	96	P	V
802.11n HT40 CH 134 5670MHz		5448.72	57.06	-16.94	74	42.74	34.7	11.91	32.29	100	116	P	H
		5469.36	56.18	-12.12	68.3	41.84	34.7	11.93	32.29	100	116	P	H
		5450	46.7	-7.3	54	32.38	34.7	11.91	32.29	100	116	A	H
	*	5674	102.3	-	-	87.54	34.92	12.1	32.26	100	116	P	H
		5674	93.28	-	-	78.52	34.92	12.1	32.26	100	116	A	H
		5733.72	58.01	-10.29	68.3	43.04	35.08	12.15	32.26	100	116	P	H
		5413.52	55.89	-18.11	74	41.6	34.7	11.87	32.28	110	96	P	V
		5460.72	54.73	-13.57	68.3	40.41	34.7	11.91	32.29	110	96	P	V
		5459.44	46.51	-7.49	54	32.19	34.7	11.91	32.29	110	96	A	V
	*	5674	101.17	-	-	86.41	34.92	12.1	32.26	110	96	P	V
		5674	93.29	-	-	78.53	34.92	12.1	32.26	110	96	A	V
		5763.56	56.78	-11.52	68.3	41.66	35.19	12.18	32.25	110	96	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-2C - 5470~5725MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 102 5510MHz		11019.02	46.56	-27.44	74	51.76	37.91	17.43	60.54	300	0	P	H
		11019.02	54.03	-19.97	74	59.23	37.91	17.43	60.54	100	27	P	V
		11019.02	47.17	-6.83	54	52.37	37.91	17.43	60.54	100	27	A	V
802.11n HT40 CH 110 5550MHz		11099.1	47.89	-26.11	74	52.99	37.96	17.46	60.52	300	0	P	H
		11099.1	55.84	-18.16	74	60.94	37.96	17.46	60.52	117	113	P	V
		11099.1	49.03	-4.97	54	54.13	37.96	17.46	60.52	117	113	A	V
802.11n HT40 CH 134 5670MHz		11339.33	47.8	-26.2	74	52.61	38.1	17.56	60.47	300	0	P	H
		11339.33	54.35	-19.65	74	59.16	38.1	17.56	60.47	117	115	P	V
		11339.33	47.76	-6.24	54	52.57	38.1	17.56	60.47	117	115	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-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)	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		5435.6	57.76	-16.24	74	43.46	34.7	11.89	32.29	106	115	P	H
		5468.56	58.96	-9.34	68.3	44.62	34.7	11.93	32.29	106	115	P	H
		5458.48	49.6	-4.4	54	35.28	34.7	11.91	32.29	106	115	A	H
	*	5536	98.38	-	-	83.98	34.7	11.99	32.29	106	115	P	H
		5536	90.83	-	-	76.43	34.7	11.99	32.29	106	115	A	H
		5754.52	57.51	-10.79	68.3	42.39	35.19	12.18	32.25	106	115	P	H
		5459.98	57.09	-16.91	74	42.77	34.7	11.91	32.29	272	56	P	V
		5460.08	57.09	-11.21	68.3	42.77	34.7	11.91	32.29	272	56	P	V
		5458.16	48.16	-5.84	54	33.84	34.7	11.91	32.29	272	56	A	V
	*	5536	95.82	-	-	81.42	34.7	11.99	32.29	272	56	P	V
		5536	87.6	-	-	73.2	34.7	11.99	32.29	272	56	A	V
		5760.76	56.06	-12.24	68.3	40.94	35.19	12.18	32.25	272	56	P	V
802.11ac VHT80 CH 122 5610MHz		5422.64	56.15	-17.85	74	41.86	34.7	11.87	32.28	105	115	P	H
		5466.8	55.92	-12.38	68.3	41.58	34.7	11.93	32.29	105	115	P	H
		5454.16	46.85	-7.15	54	32.53	34.7	11.91	32.29	105	115	A	H
	*	5614	97.85	-	-	83.38	34.7	12.05	32.28	105	115	P	H
		5614	89.36	-	-	74.89	34.7	12.05	32.28	105	115	A	H
		5734.36	56.42	-11.88	68.3	41.45	35.08	12.15	32.26	105	115	P	H
		5432.72	55.95	-18.05	74	41.65	34.7	11.89	32.29	322	63	P	V
		5467.76	55.73	-12.57	68.3	41.39	34.7	11.93	32.29	322	63	P	V
		5449.2	46.81	-7.19	54	32.49	34.7	11.91	32.29	322	63	A	V
	*	5608	94.7	-	-	80.23	34.7	12.05	32.28	322	63	P	V
		5608	86.15	-	-	71.68	34.7	12.05	32.28	322	63	A	V
		5741.48	56.53	-11.77	68.3	41.48	35.14	12.16	32.25	322	63	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-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)	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		11059.05	45.18	-28.82	74	50.32	37.94	17.45	60.53	300	0	P	H
		11059.05	53.03	-20.97	74	58.17	37.94	17.45	60.53	113	112	P	V
		11059.05	46.25	-7.75	54	51.39	37.94	17.45	60.53	113	112	A	V
802.11ac VHT80 CH 122 5610MHz		11219.21	45.87	-28.13	74	50.82	38.03	17.51	60.49	300	0	P	H
		11219.21	54.67	-19.33	74	59.62	38.03	17.51	60.49	104	116	P	V
		11219.21	46.18	-7.82	54	51.13	38.03	17.51	60.49	104	116	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-2C - Straddle Channel

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 144 5720MHz	*	5722	103.63	-	-	88.66	35.08	12.15	32.26	400	0	P	H
		5722	96.23	-	-	81.26	35.08	12.15	32.26	400	0	A	H
	*	5722	103.29	-	-	88.32	35.08	12.15	32.26	100	0	P	V
		5722	95.72	-	-	80.75	35.08	12.15	32.26	100	0	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-2C - 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		11439.44	51.73	-22.27	74	56.41	38.16	17.6	60.44	101	53	P	H
		11439.44	43.57	-10.43	54	48.25	38.16	17.6	60.44	101	53	A	H
		17154	57.85	-10.45	68.3	51.99	42.33	21.54	58.01	100	0	P	H
		11439.44	57.62	-16.38	74	62.3	38.16	17.6	60.44	100	301	P	V
		11439.44	47.1	-6.9	54	51.78	38.16	17.6	60.44	100	301	A	V
		17160	57.23	-11.07	68.3	51.37	42.3	21.55	57.99	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-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)	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	*	5722	103.81	-	-	88.84	35.08	12.15	32.26	400	0	P	H
		5722	96.23	-	-	81.26	35.08	12.15	32.26	400	0	A	H
	*	5722	103.68	-	-	88.71	35.08	12.15	32.26	100	0	P	V
		5722	96.02	-	-	81.05	35.08	12.15	32.26	100	0	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		11444.44	49.72	-24.28	74	54.4	38.16	17.6	60.44	300	0	P	H
HT20		17166	57.66	-10.64	68.3	51.8	42.3	21.55	57.99	100	0	P	H
CH 144		11444.44	57.16	-16.84	74	61.84	38.16	17.6	60.44	100	302	P	V
5720MHz		11444.44	46.39	-7.61	54	51.07	38.16	17.6	60.44	100	302	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-2C - 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	*	5710	100.88	-	-	85.98	35.03	12.13	32.26	400	0	P	H
HT40		5710	92.35	-	-	77.45	35.03	12.13	32.26	400	0	A	H
CH 142	*	5710	101.61	-	-	86.71	35.03	12.13	32.26	100	0	P	V
5710MHz		5710	93.22	-	-	78.32	35.03	12.13	32.26	100	0	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-2C - 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		11419.42	46.54	-27.46	74	51.25	38.15	17.59	60.45	300	0	P	H
HT40		17136	53.51	-14.79	68.3	47.65	42.36	21.53	58.03	100	0	P	H
CH 142		11424.42	53.7	-20.3	74	58.41	38.15	17.59	60.45	100	304	P	V
5710MHz		11424.42	45.64	-8.36	54	50.35	38.15	17.59	60.45	101	304	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac	*	5686	96.44	-	-	81.61	34.97	12.12	32.26	400	0	P	H
VHT80		5686	89.08	-	-	74.25	34.97	12.12	32.26	400	0	A	H
CH 138	*	5686	96.01	-	-	81.18	34.97	12.12	32.26	100	0	P	V
5690MHz		5686	88.67	-	-	73.84	34.97	12.12	32.26	100	0	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-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)	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		11379.38	44.75	-29.25	74	49.5	38.13	17.58	60.46	300	0	P	H
		11379.38	48.7	-25.3	74	53.45	38.13	17.58	60.46	300	0	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 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 LF		100.81	23.1	-20.4	43.5	37.37	16.19	1.74	32.2	-	-	P	H
		156.1	26.78	-16.72	43.5	39.96	16.74	2.18	32.1	100	0	P	H
		178.41	26.08	-17.42	43.5	40.64	15.21	2.33	32.1	-	-	P	H
		276.38	24.21	-21.79	46	34.19	19.27	2.9	32.15	-	-	P	H
		319.06	28.12	-17.88	46	37.55	19.59	3.12	32.14	-	-	P	H
		607.15	24.84	-21.16	46	26.95	25.9	4.28	32.29	-	-	P	H
		44.55	25.12	-14.88	40	38.79	17.35	1.16	32.18	200	0	P	V
		99.84	24.5	-19	43.5	38.87	16.1	1.73	32.2	-	-	P	V
		154.16	25.78	-17.72	43.5	38.85	16.86	2.17	32.1	-	-	P	V
		197.81	25.69	-17.81	43.5	40.29	15.04	2.46	32.1	-	-	P	V
		318.09	29.06	-16.94	46	38.51	19.58	3.11	32.14	-	-	P	V
		496.57	24.72	-21.28	46	29.28	23.93	3.89	32.38	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

For co-location:

UNII-2C - 5470~5725MHz

WIFI 802.11a + EDGE850 (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 116 5580MHz		5430	55.19	-18.81	74	40.89	34.7	11.89	32.29	106	153	P	H
		5463.92	55.66	-12.64	68.3	41.32	34.7	11.93	32.29	106	153	P	H
	*	5458.64	45.73	-8.27	54	31.41	34.7	11.91	32.29	106	153	A	H
		5578	105.59	-	-	91.15	34.7	12.02	32.28	106	153	P	H
		5578	97.88	-	-	83.44	34.7	12.02	32.28	106	153	A	H
		5756.04	56.41	-11.89	68.3	41.29	35.19	12.18	32.25	106	153	P	H
		5410.8	56.2	-17.8	74	41.92	34.7	11.86	32.28	100	97	P	V
		5465.36	56.95	-11.35	68.3	42.61	34.7	11.93	32.29	100	97	P	V
	*	5458.8	45.63	-8.37	54	31.31	34.7	11.91	32.29	100	97	A	V
		5584	103.67	-	-	89.22	34.7	12.03	32.28	100	97	P	V
		5584	96.27	-	-	81.82	34.7	12.03	32.28	100	97	A	V
		5758.36	56.92	-11.38	68.3	41.8	35.19	12.18	32.25	100	97	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

UNII-2C - 5470~5725MHz

WIFI 802.11a + EDGE850 (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 116 5580MHz		11159.16	50.6	-23.4	74	55.61	38	17.49	60.5	300	0	P	H
		11159.16	59.95	-14.05	74	64.96	38	17.49	60.5	116	113	P	V
		11159.16	50.21	-3.79	54	55.22	38	17.49	60.5	116	113	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average 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 not under limit 6dB.
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	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)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Level(dBμV/m) =

Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

2. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable 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) + Cable 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)

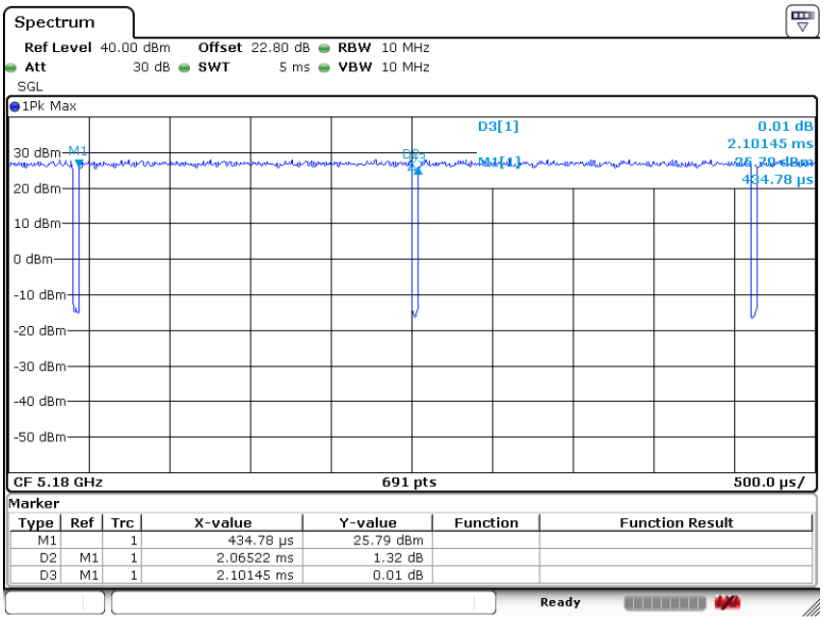
= -10.46(dB)

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

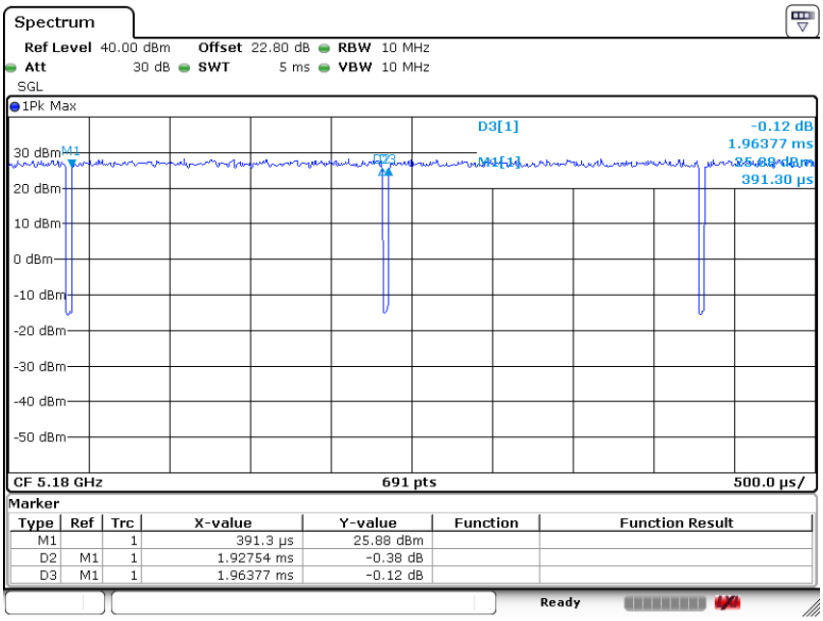
Appendix D. Duty Cycle Plots

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	98.28	-	-	10Hz
802.11n HT20	98.16	-	-	10Hz
802.11n HT40	96.31	0.946	1.057	1.1kHz
802.11ac VHT80	92.79	0.466	2.146	2.2kHz

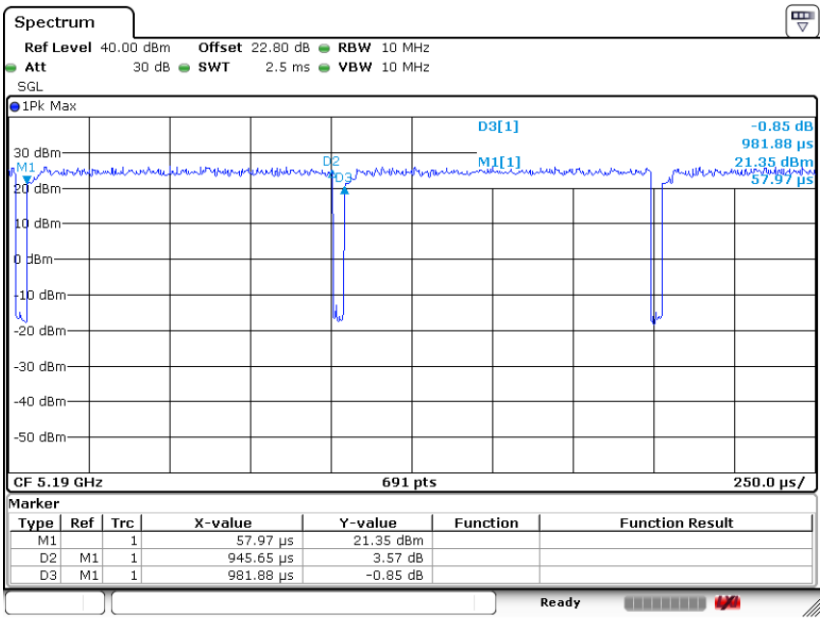
802.11a



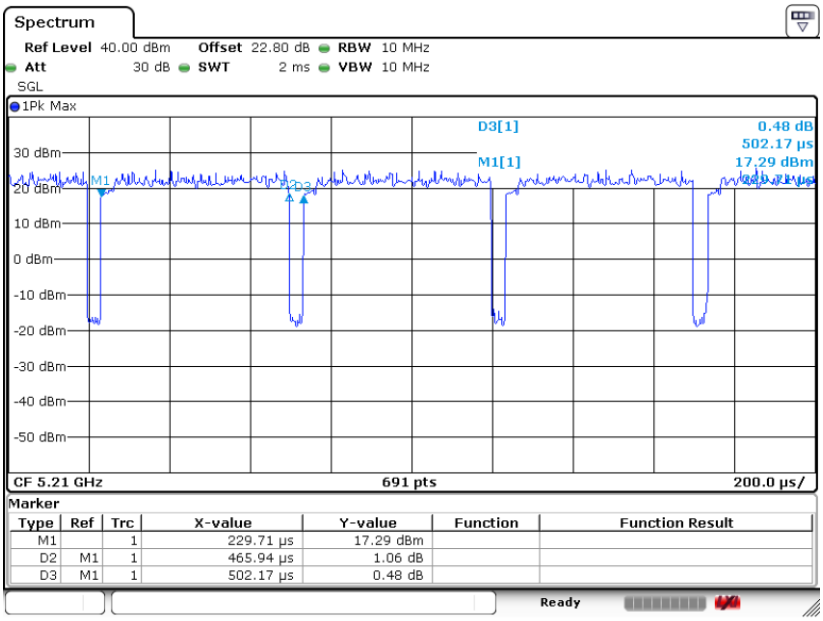
802.11n HT20



802.11n HT40



802.11ac VHT80



Appendix F. Reference Report

Please refer to Sporton report number FR122708D which is issued separately.