FCC RF Test Report

APPLICANT	:	PAX Technology Limited
EQUIPMENT	:	Wireless Data Terminal
BRAND NAME	:	PAX
MODEL NAME	:	X5
FCC ID	:	V5PX5
STANDARD	:	FCC Part 15 Subpart E §15.407
CLASSIFICATION	:	(NII) Unlicensed National Information Infrastructure

The product was received on May 22, 2019 and testing was completed on Dec. 27, 2019. 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
FR952227E	Rev. 01	Initial issue of report	Jan. 16, 2020

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	2.1049 & 15.403(i)	26dB & 99% Bandwidth	-	Pass	-
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 3.86 dB at 5453.680 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 6.77 dB at 9.300 MHz
3.6	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.7	15.203 & 15.407(a)	Antenna Requirement	N/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

PAX Technology Limited
Room 2416, 24/F., Sun Hung Kai Centre, 30 Harbour Road, Wanchai, Hong Kong

1.2 Manufacturer

PAX Computer Technology (Shenzhen) Co., Ltd.
4/F, No.3 Building, Software Park, Second Central Science-Tech Road, High-Tech industrial Park, Shenzhen, Guangdong, P.R.C.

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Wireless Data Terminal
Brand Name	PAX
Model Name	X5
FCC ID	V5PX5
EUT supports Radios application	WCDMA/LTE/GNSS/NFC WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE
IMEI Code	Conducted: 353022100101986 353022100101994 Conduction: 353022100102067/353022100102075 Radiation: 353022100101663/353022100101671
HW Version	N/A
SW Version	N/A
EUT Stage	Production Unit

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 : 14.40 dBm / 0.0275 W 802.11n HT20 : 14.48 dBm / 0.0281 W 802.11n HT40 : 14.34 dBm / 0.0272 W 802.11ac VHT20 : 14.47 dBm / 0.0280 W 802.11ac VHT40 : 14.24 dBm / 0.0265 W 802.11ac VHT80 : 13.97 dBm / 0.0249 W **<5260 MHz ~ 5320 MHz>** 802.11a : 14.19 dBm / 0.0262 W 802.11n HT20 : 14.18 dBm / 0.0262 W 802.11n HT40 : 14.00 dBm / 0.0251 W 802.11ac VHT20 : 14.13 dBm / 0.0259 W 802.11ac VHT40 : 13.97 dBm / 0.0249 W 802.11ac VHT80 : 14.00 dBm / 0.0251 W **<5500 MHz ~ 5720 MHz >** 802.11a : 14.12 dBm / 0.0258 W 802.11n HT20 : 14.22 dBm / 0.0264 W 802.11n HT40 : 14.33 dBm / 0.0271 W 802.11ac VHT20 : 14.21 dBm / 0.0264 W 802.11ac VHT40 : 14.30 dBm / 0.0269 W 802.11ac VHT80 : 13.97 dBm / 0.0249 W
99% Occupied Bandwidth	**<5180 MHz ~ 5240 MHz>** 802.11a : 19.18 MHz 802.11n HT20 : 19.88 MHz 802.11n HT40 : 37.26 MHz 802.11ac VHT80 : 74.81 MHz **<5260 MHz ~ 5320 MHz>** 802.11a : 19.08 MHz 802.11n HT20 : 19.88 MHz 802.11n HT40 : 37.06 MHz 802.11ac VHT80 : 74.81 MHz **<5500 MHz ~ 5720 MHz >** 802.11a : 19.03 MHz 802.11n HT20 : 19.63 MHz 802.11n HT40 : 37.06 MHz 802.11ac VHT80 : 74.81 MHz
Antenna Type / Gain	**<5150 MHz ~ 5250 MHz>** Fixed Interna Antenna with gain 1.50 dBi **<5250 MHz ~ 5350 MHz>** Fixed Interna Antenna with gain 1.50 dBi **<5470 MHz ~ 5725 MHz>** Fixed Interna Antenna with gain 1.50 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 only 802.11n HT20 / HT40 by referring to their maximum conducted power.

1.5 Modification of EUT

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

1.6 Testing Location

Sporton International (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	No. 3 Bldg the third floor of south, Shahe River west, Fengzeyuan Warehouse, Nanshan Shenzhen, 518055 People's Republic of China 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	Manufacture	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 Band 1 (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 Band 2 (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 Band 3 (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
802.11n HT40	MCS0
802.11ac VHT80	MCS0

Test Cases	
AC Conducted Emission	Mode 1 : WCDMA Band V Idle + Bluetooth Link + WLAN Link(5G) + Earphone + USB Cable(Charging from Adapter)
Remark: For Radiated Test Cases, The tests were performance with Adapter and Earphone.	

Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：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

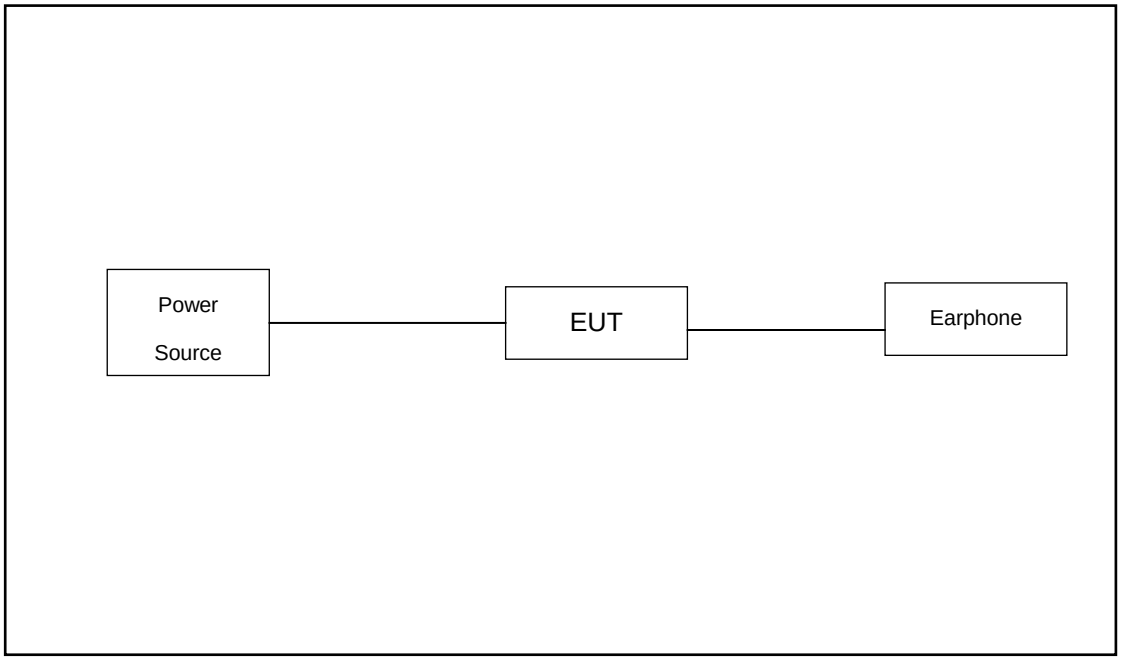
Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：5470-5725MHz
		802.11n HT20	802.11n HT20	802.11n HT20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle		-	-	144

Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：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

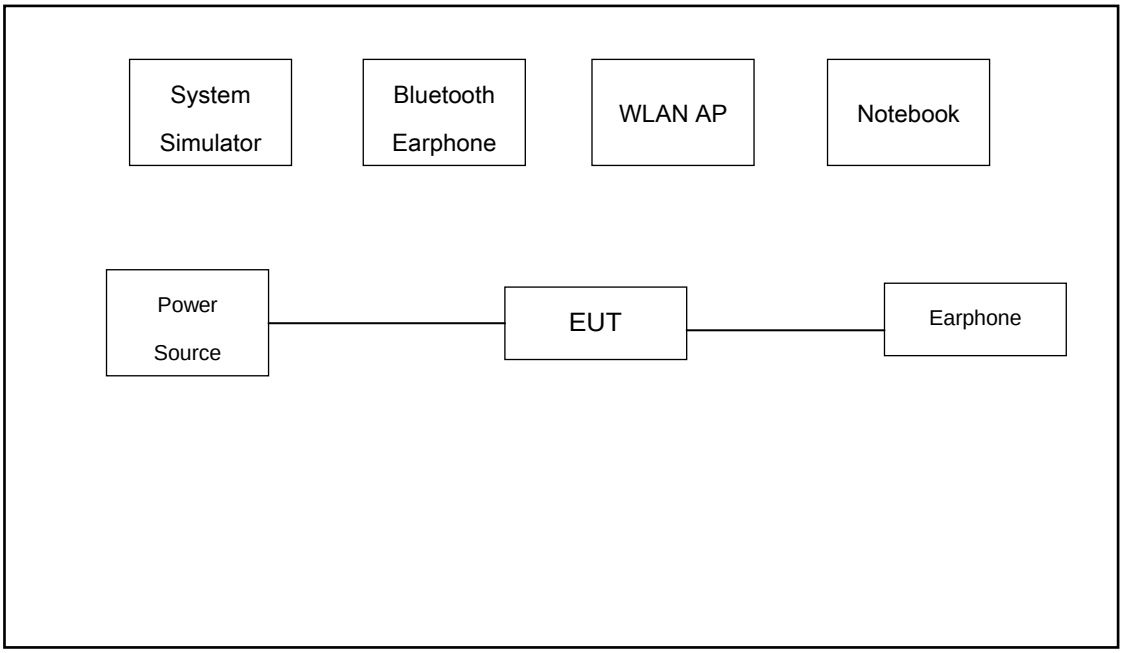
Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：5470-5725MHz
		802.11ac VHT80	802.11ac VHT80	802.11ac VHT80
L	Low	-	-	106
M	Middle	42	58	-
H	High	-	-	-
Straddle		-	-	138

2.3 Connection Diagram of Test System

For Radiation



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.	Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded,1.8m
2.	Bluetooth Earphone	Samsung	EO-MG900	PYAHS-107W	N/A	N/A
3.	WLAN AP	D-link	DIR-820L	KA2IR820LA1	N/A	Unshielded,1.8m
4.	Notebook	Lenovo	E540	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
5.	Earphone	Apple	MC690ZP/A	N/A	Shielded, 1.0m	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.

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 6.6 dB and 10dB attenuator.

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 6.6 + 10 = 16.6 (dB)

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

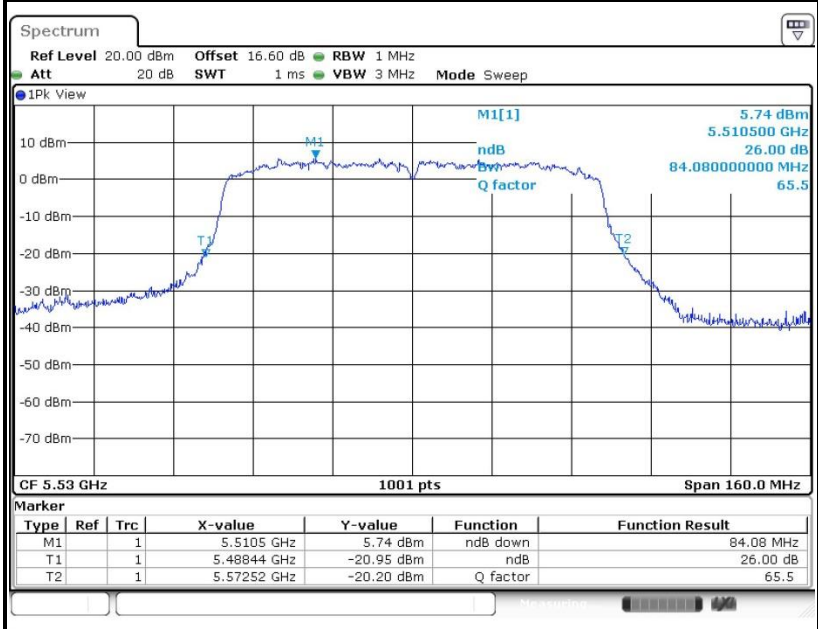
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB 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) ≥ 3 * RBW.
8. Measure and record the results in the test report.

3.1.4 Test Setup

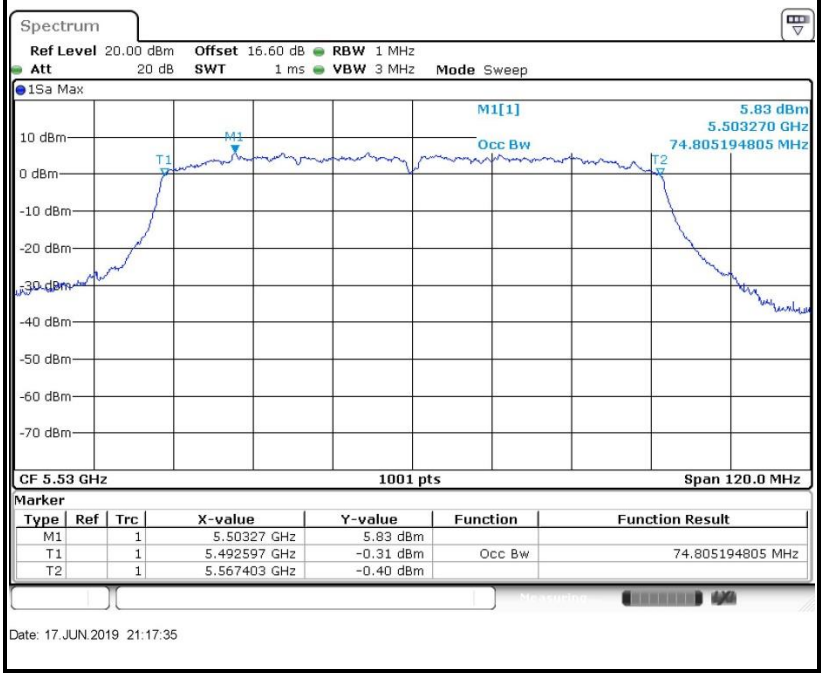
3.1.5 Test Result of 26dB & 99% Occupied Bandwidth

Please refer to Appendix A.

Maximum 26dB Bandwidth



Maximum 99% Occupied Bandwidth



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 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.

3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

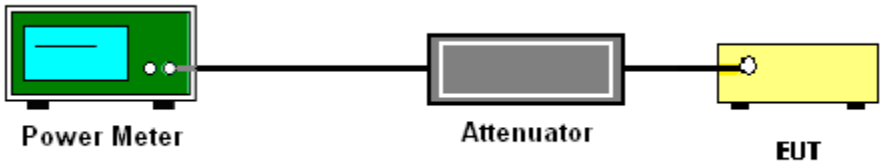
The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

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.

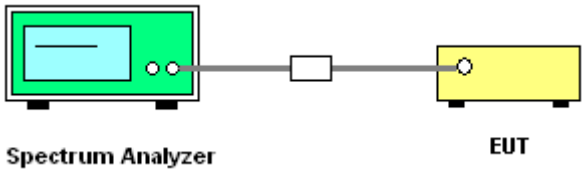
 # Method SA-2 #

(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 ≥ 3 MHz.
- Number of points in sweep ≥ 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.

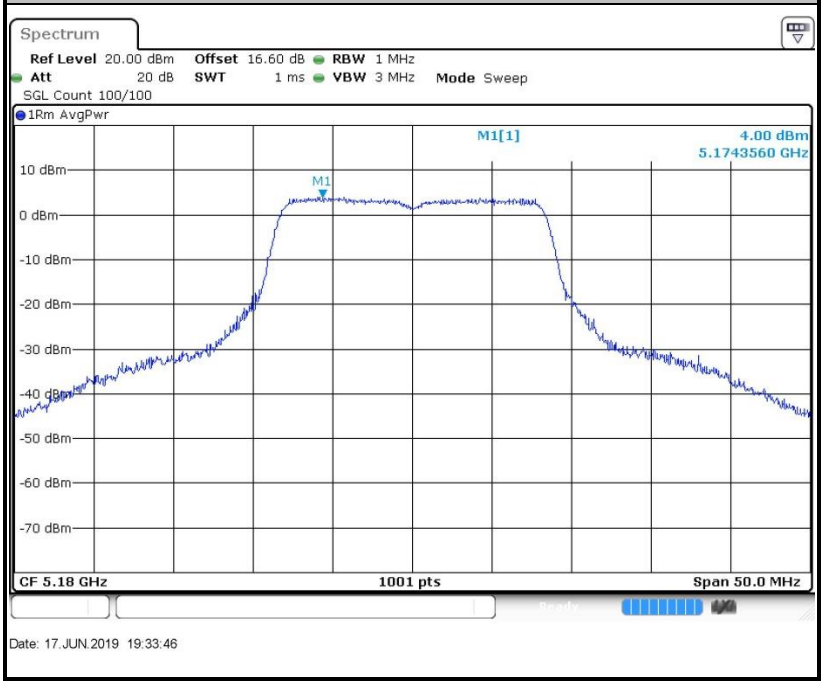
3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

Worst Case Power Density (dBm/MHz)



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 5470-5600 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	68.2

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

3.4.2 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.

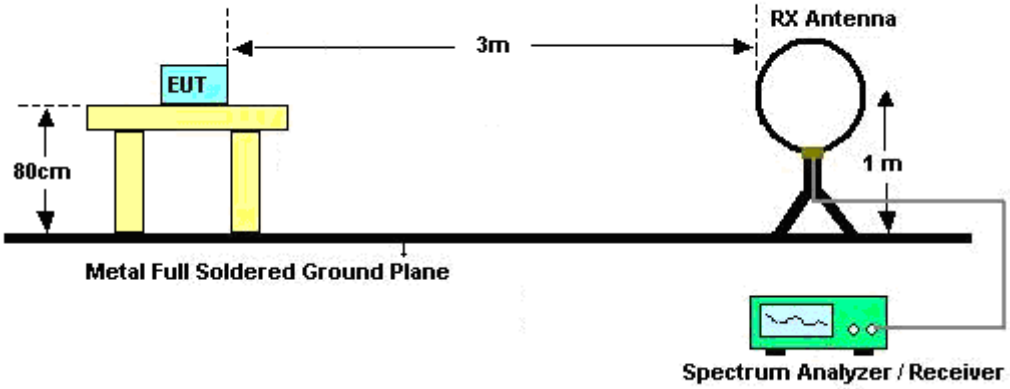
   (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
   - RBW = 120 kHz
   - VBW = 300 kHz
   - Detector = Peak
   - Trace mode = max hold

   (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz
   - RBW = 1 MHz
   - VBW ≥ 3 MHz
   - Detector = Peak
   - Sweep time = auto
   - Trace mode = max hold

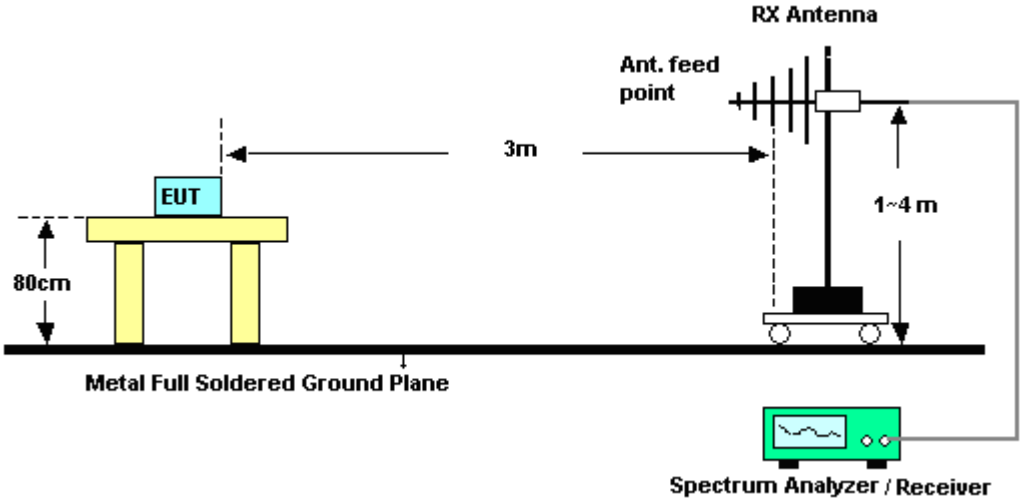
   (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz
   - RBW = 1 MHz
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting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

3.4.4 Test Setup

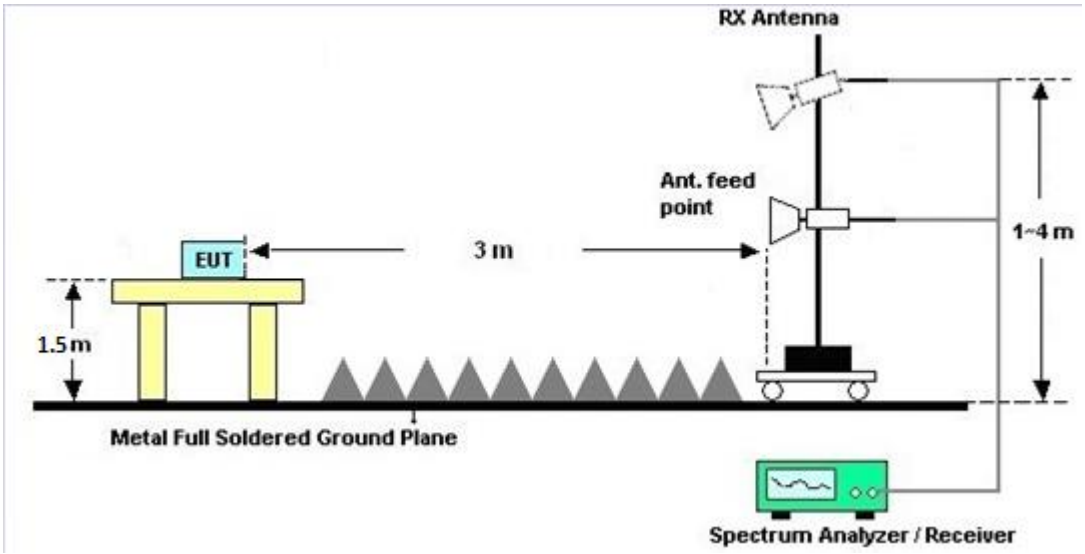
For radiated emissions below 30MHz



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)

Please refer to Appendix C.

3.5 AC Conducted Emission Measurement

3.5.1 Limit of AC Conducted Emission

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

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

*Decreases with the logarithm of the frequency.

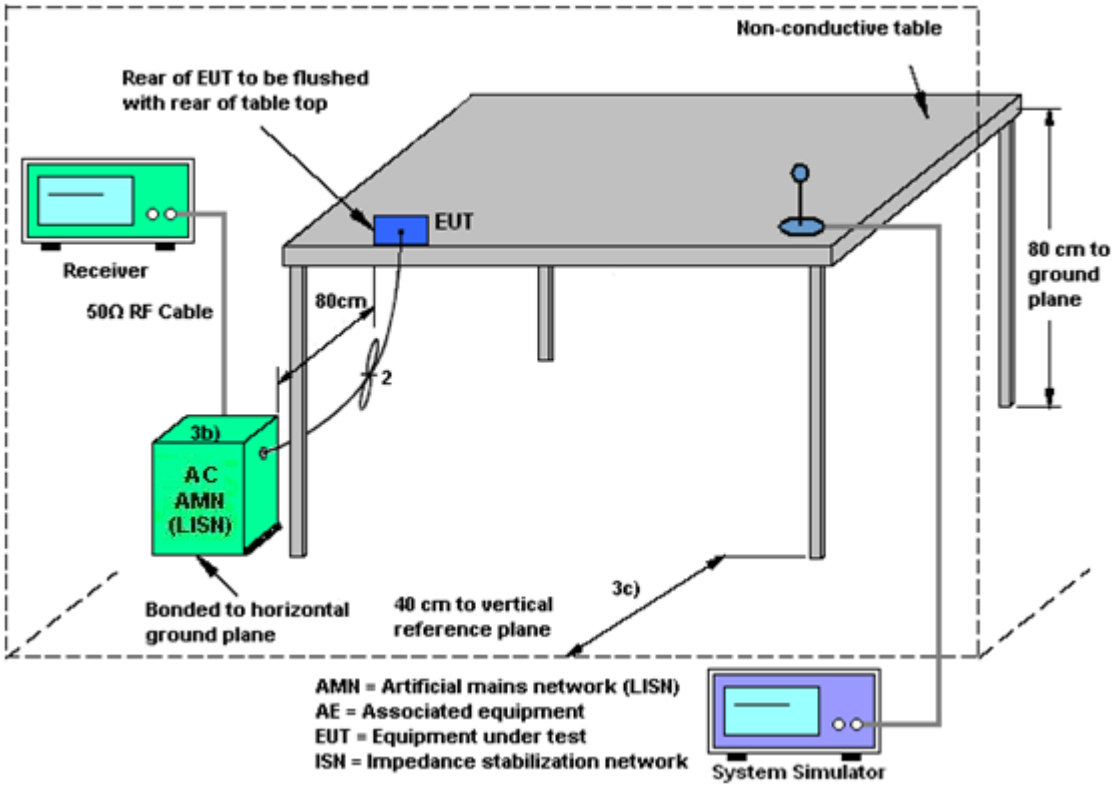
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

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

3.5.4 Test Setup



3.5.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.6 Automatically Discontinue Transmission

3.6.1 Limit of Automatically Discontinue Transmission

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

3.6.2 Measuring Instruments

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

3.6.3 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.

3.7 Antenna Requirements

3.7.1 Standard Applicable

If transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

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

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 18, 2019	Jun. 17, 2019	Apr. 17, 2020	Conducted (TH01-SZ)
Pulse Power Senor	Anritsu	MA2411B	1207253	30MHz~40GHz	Dec. 22, 2018	Jun. 17, 2019	Dec. 21, 2019	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	50MHz Bandwidth	Dec. 22, 2018	Jun. 17, 2019	Dec. 21, 2019	Conducted (TH01-SZ)
EMI Test Receiver&SA	Agilent	N9038A	MY52260185	20Hz~26.5GHz	Jul. 22, 2019	Dec. 23, 2019~ Dec. 27, 2019	Jul. 21, 2020	Radiation (03CH01-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Apr. 18, 2019	Dec. 23, 2019~ Dec. 27, 2019	Apr. 17, 2020	Radiation (03CH01-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	May. 29, 2018	Dec. 23, 2019~ Dec. 27, 2019	May. 28, 2020	Radiation (03CH01-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz-2GHz	Jul. 19, 2019	Dec. 23, 2019~ Dec. 27, 2019	Jul. 18, 2020	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1285	1GHz~18GHz	Jan. 07, 2019	Dec. 23, 2019~ Dec. 27, 2019	Jan. 06, 2020	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Aug. 27, 2019	Dec. 23, 2019~ Dec. 27, 2019	Aug. 26, 2020	Radiation (03CH01-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Apr.18, 2019	Dec. 23, 2019~ Dec. 27, 2019	Apr. 17, 2020	Radiation (03CH01-SZ)
LF Amplifier	Burgeon	BPA-530	102209	0.01~3000Mhz	Apr. 19, 2019	Dec. 23, 2019~ Dec. 27, 2019	Apr. 18, 2020	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1943528	1GHz~18GHz	Oct. 18,2019	Dec. 23, 2019~ Dec. 27, 2019	Oct. 17,2020	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 22. 2019	Dec. 23, 2019~ Dec. 27, 2019	Jul. 21. 2020	Radiation (03CH01-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	NCR	Dec. 23, 2019~ Dec. 27, 2019	NCR	Radiation (03CH01-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Dec. 23, 2019~ Dec. 27, 2019	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Dec. 23, 2019~ Dec. 27, 2019	NCR	Radiation (03CH01-SZ)
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Dec. 23, 2018	Jun. 04, 2019	Dec. 22, 2019	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103912	9kHz~30MHz	Oct. 18, 2018	Jun. 04, 2019	Oct. 17, 2019	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Dec. 23, 2018	Jun. 04, 2019	Dec. 22, 2019	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Jul. 23, 2019	Jun. 04, 2019	Jul. 22, 2020	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))	**2.6dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.8dB**

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**

Appendix A. Conducted Test Results

Report Number : FR952227

Test Engineer:	Zhang Jiang	Temperature:	21~25	°C
Test Date:	2019/6/17	Relative Humidity:	51~54	%

Report Number : FR952227E

TEST RESULTS DATA
26dB and 99% OBW

Band I										
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	19.13	23.53	-	22.82		
11a	6Mbps	1	44	5220	19.18	23.73	-	22.83		
11a	6Mbps	1	48	5240	19.08	23.68	-	22.81		
HT20	MCS0	1	36	5180	19.88	24.33	-	22.98		
HT20	MCS0	1	44	5220	19.88	24.23	-	22.98		
HT20	MCS0	1	48	5240	19.88	24.83	-	22.98		
HT40	MCS0	1	38	5190	37.16	44.15	-	23.01		
HT40	MCS0	1	46	5230	37.26	44.96	-	23.01		
VHT80	MCS0	1	42	5210	74.81	83.12	-	23.01		

Report Number : FR952227E

TEST RESULTS DATA
Average Power Table

FCC Band I										
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	0.58	14.40	24.00	1.50		Pass
11a	6Mbps	1	44	5220	0.58	14.39	24.00	1.50		Pass
11a	6Mbps	1	48	5240	0.58	14.26	24.00	1.50		Pass
HT20	MCS0	1	36	5180	0.62	14.48	24.00	1.50		Pass
HT20	MCS0	1	44	5220	0.62	14.37	24.00	1.50		Pass
HT20	MCS0	1	48	5240	0.62	14.24	24.00	1.50		Pass
HT40	MCS0	1	38	5190	1.18	14.34	24.00	1.50		Pass
HT40	MCS0	1	46	5230	1.18	14.23	24.00	1.50		Pass
VHT20	MCS0	1	36	5180	0.81	14.47	24.00	1.50		Pass
VHT20	MCS0	1	44	5220	0.81	14.31	24.00	1.50		Pass
VHT20	MCS0	1	48	5240	0.81	14.22	24.00	1.50		Pass
VHT40	MCS0	1	38	5190	1.47	14.24	24.00	1.50		Pass
VHT40	MCS0	1	46	5230	1.47	14.12	24.00	1.50		Pass
VHT80	MCS0	1	42	5210	2.58	13.97	24.00	1.50		Pass

Report Number : FR952227E

TEST RESULTS DATA
Power Spectral Density

FCC Band I										
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	0.58	4.58	11.00	1.50		Pass
11a	6Mbps	1	44	5220	0.58	4.09	11.00	1.50		Pass
11a	6Mbps	1	48	5240	0.58	4.02	11.00	1.50		Pass
HT20	MCS0	1	36	5180	0.62	3.99	11.00	1.50		Pass
HT20	MCS0	1	44	5220	0.62	3.66	11.00	1.50		Pass
HT20	MCS0	1	48	5240	0.62	3.53	11.00	1.50		Pass
HT40	MCS0	1	38	5190	1.18	1.23	11.00	1.50		Pass
HT40	MCS0	1	46	5230	1.18	0.60	11.00	1.50		Pass
VHT80	MCS0	1	42	5210	2.58	-2.37	11.00	1.50		Pass

Report Number : FR952227E

TEST RESULTS DATA
26dB and 99% OBW

Band II										
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	19.08	23.58	23.81	29.81	23.98	
11a	6M bps	1	60	5300	18.98	23.68	23.78	29.78	23.98	
11a	6M bps	1	64	5320	18.98	23.73	23.78	29.78	23.98	
HT20	MCS 0	1	52	5260	19.78	24.13	23.96	29.96	23.98	
HT20	MCS 0	1	60	5300	19.88	24.13	23.98	29.98	23.98	
HT20	MCS 0	1	64	5320	19.73	24.08	23.95	29.95	23.98	
HT40	MCS 0	1	54	5270	37.06	44.60	23.98	30.00	23.98	
HT40	MCS 0	1	62	5310	36.96	44.51	23.98	30.00	23.98	
VHT80	MCS 0	1	58	5290	74.81	82.96	23.98	30.00	23.98	

Report Number : FR952227E

TEST RESULTS DATA
Average Power Table

FCC Band II										
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	0.58	14.16	23.98	1.50	26.99	Pass
11a	6M bps	1	60	5300	0.58	14.19	23.98	1.50	26.99	Pass
11a	6M bps	1	64	5320	0.58	14.15	23.98	1.50	26.99	Pass
HT20	MCS 0	1	52	5260	0.62	14.12	23.98	1.50	26.99	Pass
HT20	MCS 0	1	60	5300	0.62	14.17	23.98	1.50	26.99	Pass
HT20	MCS 0	1	64	5320	0.62	14.18	23.98	1.50	26.99	Pass
HT40	MCS 0	1	54	5270	1.18	13.93	23.98	1.50	26.99	Pass
HT40	MCS 0	1	62	5310	1.18	14.00	23.98	1.50	26.99	Pass
VHT20	MCS 0	1	52	5260	0.81	14.10	23.98	1.50	26.99	Pass
VHT20	MCS 0	1	60	5300	0.81	14.11	23.98	1.50	26.99	Pass
VHT20	MCS 0	1	64	5320	0.81	14.13	23.98	1.50	26.99	Pass
VHT40	MCS 0	1	54	5270	1.47	13.87	23.98	1.50	26.99	Pass
VHT40	MCS 0	1	62	5310	1.47	13.97	23.98	1.50	26.99	Pass
VHT80	MCS 0	1	58	5290	2.58	14.00	23.98	1.50	26.99	Pass

TEST RESULTS DATA
Power Spectral Density

Band II										
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	0.58	3.68	11.00	1.50		Pass
11a	6M bps	1	60	5300	0.58	3.72	11.00	1.50		Pass
11a	6M bps	1	64	5320	0.58	3.34	11.00	1.50		Pass
HT20	MCS 0	1	52	5260	0.62	3.47	11.00	1.50		Pass
HT20	MCS 0	1	60	5300	0.62	3.51	11.00	1.50		Pass
HT20	MCS 0	1	64	5320	0.62	3.25	11.00	1.50		Pass
HT40	MCS 0	1	54	5270	1.18	0.50	11.00	1.50		Pass
HT40	MCS 0	1	62	5310	1.18	0.65	11.00	1.50		Pass
VHT80	MCS 0	1	58	5290	2.58	-2.53	11.00	1.50		Pass

Report Number : FR952227E

TEST RESULTS DATA
26dB and 99% OBW

Band III										
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	18.78	23.28	23.74	29.74	23.98	
11a	6M bps	1	116	5580	18.83	23.28	23.75	29.75	23.98	
11a	6M bps	1	140	5700	18.83	23.78	23.75	29.75	23.98	
11a	6Mbps	1	144	5720	19.03	23.48	23.79	29.79	23.98	
HT20	MCS 0	1	100	5500	19.48	23.78	23.90	29.90	23.98	
HT20	MCS 0	1	116	5580	19.48	23.83	23.90	29.90	23.98	
HT20	MCS 0	1	140	5700	19.63	23.88	23.93	29.93	23.98	
HT20	MCS0	1	144	5720	19.58	23.93	23.92	29.92	23.98	
HT40	MCS 0	1	102	5510	37.06	44.96	23.98	30.00	23.98	
HT40	MCS 0	1	110	5550	36.96	45.23	23.98	30.00	23.98	
HT40	MCS 0	1	134	5670	36.96	45.14	23.98	30.00	23.98	
HT40	MCS0	1	142	5710	36.96	44.69	23.98	30.00	23.98	
VHT80	MCS 0	1	106	5530	74.81	84.08	23.98	30.00	23.98	
VHT80	MCS 0	1	122	5610	74.69	84.08	23.98	30.00	23.98	
VHT80	MCS0	1	138	5690	74.69	84.08	23.98	30.00	23.98	

Report Number : FR952227E

TEST RESULTS DATA
Average Power Table

FCC Band III										
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	0.58	13.90	23.98	1.50	26.99	Pass
11a	6M bps	1	116	5580	0.58	14.12	23.98	1.50	26.99	Pass
11a	6M bps	1	140	5700	0.58	14.11	23.98	1.50	26.99	Pass
11a	6M bps	1	144	5720	0.58	14.06	23.98	1.50	26.99	Pass
HT20	MCS 0	1	100	5500	0.62	14.01	23.98	1.50	26.99	Pass
HT20	MCS 0	1	116	5580	0.62	14.19	23.98	1.50	26.99	Pass
HT20	MCS 0	1	140	5700	0.62	14.22	23.98	1.50	26.99	Pass
HT20	MCS 0	1	144	5720	0.62	14.08	23.98	1.50	26.99	Pass
HT40	MCS 0	1	102	5510	1.18	14.20	23.98	1.50	26.99	Pass
HT40	MCS 0	1	110	5550	1.18	14.33	23.98	1.50	26.99	Pass
HT40	MCS 0	1	134	5670	1.18	14.22	23.98	1.50	26.99	Pass
HT40	MCS 0	1	142	5710	1.18	13.99	23.98	1.50	26.99	Pass
VHT20	MCS 0	1	100	5500	0.81	13.98	23.98	1.50	26.99	Pass
VHT20	MCS 0	1	116	5580	0.81	14.16	23.98	1.50	26.99	Pass
VHT20	MCS 0	1	140	5700	0.81	14.21	23.98	1.50	26.99	Pass
VHT20	MCS 0	1	144	5720	0.81	14.04	23.98	1.50	26.99	Pass
VHT40	MCS 0	1	102	5510	1.47	14.15	23.98	1.50	26.99	Pass
VHT40	MCS 0	1	110	5550	1.47	14.30	23.98	1.50	26.99	Pass
VHT40	MCS 0	1	134	5670	1.47	14.19	23.98	1.50	26.99	Pass
VHT40	MCS 0	1	142	5710	1.47	13.92	23.98	1.50	26.99	Pass
VHT80	MCS 0	1	106	5530	2.58	13.96	23.98	1.50	26.99	Pass
VHT80	MCS 0	1	122	5610	2.58	13.97	23.98	1.50	26.99	Pass
VHT80	MCS 0	1	138	5690	2.58	13.72	23.98	1.50	26.99	Pass

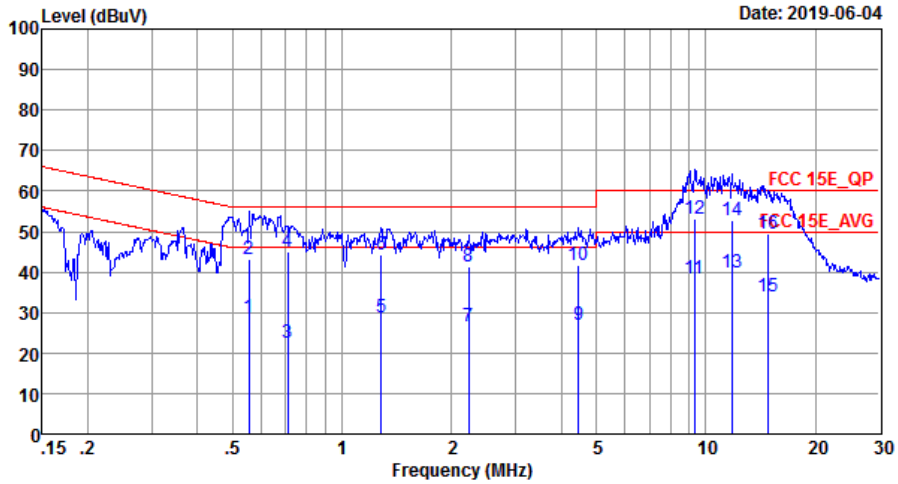
Report Number : FR952227E

TEST RESULTS DATA
Power Spectral Density

Band III										
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	0.58	3.25	11.00	1.50		Pass
11a	6M bps	1	116	5580	0.58	3.37	11.00	1.50		Pass
11a	6M bps	1	140	5700	0.58	3.53	11.00	1.50		Pass
11a	6Mbps	1	144	5720	0.58	3.40	11.00	1.50		Pass
HT20	MCS 0	1	100	5500	0.62	3.03	11.00	1.50		Pass
HT20	MCS 0	1	116	5580	0.62	3.21	11.00	1.50		Pass
HT20	MCS 0	1	140	5700	0.62	3.35	11.00	1.50		Pass
HT20	MCS0	1	144	5720	0.62	3.19	11.00	1.50		Pass
HT40	MCS 0	1	102	5510	1.18	0.96	11.00	1.50		Pass
HT40	MCS 0	1	110	5550	1.18	1.05	11.00	1.50		Pass
HT40	MCS 0	1	134	5670	1.18	1.08	11.00	1.50		Pass
HT40	MCS0	1	142	5710	1.18	0.70	11.00	1.50		Pass
VHT80	MCS 0	1	106	5530	2.58	-2.23	11.00	1.50		Pass
VHT80	MCS 0	1	122	5610	2.58	-2.34	11.00	1.50		Pass
VHT80	MCS0	1	138	5690	2.58	-2.35	11.00	1.50		Pass

Appendix B. AC Conducted Emission Test Results

Test Engineer :	Dalin Liu	**Temperature :**	22~25℃
		Relative Humidity :	50~55%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

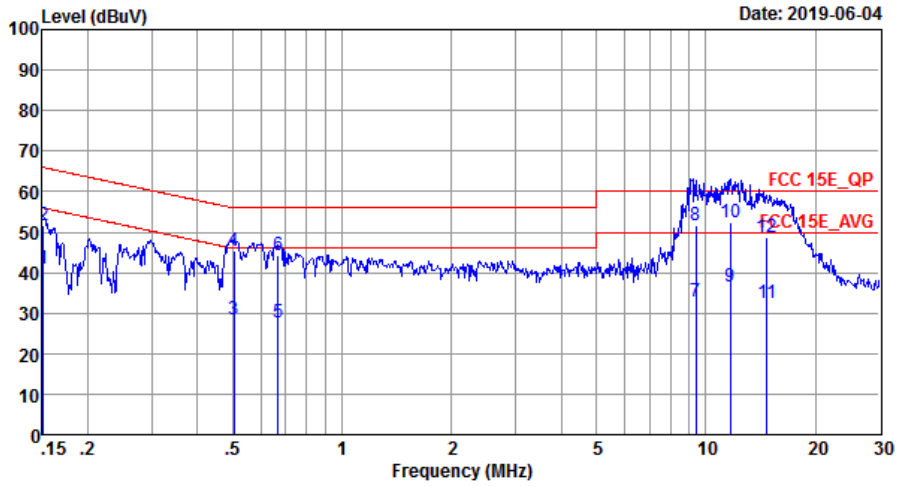


Site : CO01-SZ
Condition: FCC 15E_QP LISN_20180719_L LINE

Mode : Mode 1
IMEI : 353022100102067/353022100102075

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.56	28.70	-17.30	46.00	18.50	0.02	10.18	Average
2		0.56	43.10	-12.90	56.00	32.90	0.02	10.18	QP
3		0.71	22.43	-23.57	46.00	12.23	0.02	10.18	Average
4		0.71	45.05	-10.95	56.00	34.85	0.02	10.18	QP
5		1.28	28.77	-17.23	46.00	18.51	0.08	10.18	Average
6		1.28	44.37	-11.63	56.00	34.11	0.08	10.18	QP
7		2.22	26.71	-19.29	46.00	16.40	0.12	10.19	Average
8		2.22	41.41	-14.59	56.00	31.10	0.12	10.19	QP
9		4.48	26.89	-19.11	46.00	16.50	0.18	10.21	Average
10		4.48	41.69	-14.31	56.00	31.30	0.18	10.21	QP
11		9.30	38.54	-11.46	50.00	27.95	0.33	10.26	Average
12	*	9.30	53.23	-6.77	60.00	42.64	0.33	10.26	QP
13		11.81	39.69	-10.31	50.00	29.01	0.42	10.26	Average
14		11.81	52.73	-7.27	60.00	42.05	0.42	10.26	QP
15		14.83	34.00	-16.00	50.00	23.23	0.50	10.27	Average
16		14.83	49.60	-10.40	60.00	38.83	0.50	10.27	QP

Test Engineer :	Dalin Liu	**Temperature :**	22~25℃
		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_20180719_N NEUTRAL

Mode : Mode 1
IMEI : 353022100102067/353022100102075

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.15	40.99	-14.97	55.96	30.80	0.03	10.16	Average
2		0.15	51.59	-14.37	65.96	41.40	0.03	10.16	QP
3		0.50	28.24	-17.76	46.00	18.05	0.02	10.17	Average
4		0.50	45.22	-10.78	56.00	35.03	0.02	10.17	QP
5		0.67	27.55	-18.45	46.00	17.35	0.02	10.18	Average
6		0.67	44.46	-11.54	56.00	34.26	0.02	10.18	QP
7		9.40	32.66	-17.34	50.00	22.26	0.14	10.26	Average
8		9.40	51.80	-8.20	60.00	41.40	0.14	10.26	QP
9		11.68	36.54	-13.46	50.00	26.06	0.22	10.26	Average
10	*	11.68	52.29	-7.71	60.00	41.81	0.22	10.26	QP
11		14.75	32.60	-17.40	50.00	22.01	0.32	10.27	Average
12		14.75	48.89	-11.11	60.00	38.30	0.32	10.27	QP

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

Band 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		5146.38	54.36	-19.64	74	38.28	34.9	14.28	33.1	101	244	P	H
		5127.66	45.56	-8.44	54	29.48	34.9	14.28	33.1	101	244	A	H
	*	5180	98.84	-	-	82.88	34.9	14.16	33.1	101	244	P	H
		5180	92.09	-	-	76.13	34.9	14.16	33.1	101	244	A	H
		5020.02	54.8	-19.2	74	38.34	34.9	14.66	33.1	164	276	P	V
		5124.54	44.93	-9.07	54	28.85	34.9	14.28	33.1	164	276	A	V
	*	5180	96.13	-	-	80.17	34.9	14.16	33.1	164	276	P	V
		5180	90.15	-	-	74.19	34.9	14.16	33.1	164	276	A	V
802.11a CH 44 5220MHz		5030.42	55.25	-18.75	74	38.79	34.9	14.66	33.1	100	243	P	H
		5077.74	44.97	-9.03	54	28.76	34.9	14.41	33.1	100	243	A	H
	*	5220	99.45	-	-	83.62	34.9	14.03	33.1	100	243	P	H
		5220	93.19	-	-	77.36	34.9	14.03	33.1	100	243	A	H
		5404.84	53.29	-20.71	74	36.73	34.9	14.76	33.1	100	243	P	H
		5392.8	44.62	-9.38	54	28.06	34.9	14.76	33.1	100	243	A	H
		5131.56	54.35	-19.65	74	38.27	34.9	14.28	33.1	129	275	P	V
		5080.34	45.06	-8.94	54	28.85	34.9	14.41	33.1	129	275	A	V
	*	5220	96.18	-	-	80.35	34.9	14.03	33.1	129	275	P	V
		5220	90.44	-	-	74.61	34.9	14.03	33.1	129	275	A	V
		5385.12	54.75	-19.25	74	38.34	34.9	14.61	33.1	129	275	P	V
		5381.52	44.9	-9.1	54	28.49	34.9	14.61	33.1	129	275	A	V

802.11a CH 48 5240MHz		5097.76	53.87	-20.13	74	37.66	34.9	14.41	33.1	100	242	P	H
		5046.02	44.89	-9.11	54	28.56	34.9	14.53	33.1	100	242	A	H
	*	5240	99.76	-	-	83.78	34.9	14.18	33.1	100	242	P	H
		5240	93.32	-	-	77.34	34.9	14.18	33.1	100	242	A	H
		5453	53.37	-20.63	74	37.02	34.9	14.55	33.1	100	242	P	H
		5415.2	44.66	-9.34	54	28.1	34.9	14.76	33.1	100	242	A	H
		5022.88	54.21	-19.79	74	37.75	34.9	14.66	33.1	135	273	P	V
		5045.5	45.22	-8.78	54	28.89	34.9	14.53	33.1	135	273	A	V
	*	5240	95.66	-	-	79.68	34.9	14.18	33.1	135	273	P	V
		5240	89.87	-	-	73.89	34.9	14.18	33.1	135	273	A	V
		5418.24	55.5	-18.5	74	38.94	34.9	14.76	33.1	135	273	P	V
		5391.6	45.05	-8.95	54	28.49	34.9	14.76	33.1	135	273	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	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	50.27	-17.93	68.2	50.34	38.47	20.45	58.99	152	260	P	H
		15540	50.45	-23.55	74	44.79	41.43	23.16	58.93	189	238	P	H
		10360	50.15	-18.05	68.2	50.22	38.47	20.45	58.99	241	260	P	V
		15540	49.8	-24.2	74	44.14	41.43	23.16	58.93	189	184	P	V
802.11a CH 44 5220MHz		10440	50.44	-17.76	68.2	50.4	38.49	20.47	58.92	185	230	P	H
		15660	49.75	-24.25	74	43.99	41.56	23.26	59.06	160	59	P	H
		10440	50.96	-17.24	68.2	50.92	38.49	20.47	58.92	150	230	P	V
		15660	49.96	-24.04	74	44.2	41.56	23.26	59.06	160	225	P	V
802.11a CH 48 5240MHz		10480	50.94	-17.26	68.2	50.82	38.5	20.48	58.86	150	289	P	H
		15720	50.68	-23.32	74	44.88	41.62	23.3	59.12	150	291	P	H
		10480	50.31	-17.89	68.2	50.19	38.5	20.48	58.86	126	238	P	V
		15720	49.72	-24.28	74	43.92	41.62	23.3	59.12	186	329	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 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)
		5013.52	54.85	-19.15	74	38.39	34.9	14.66	33.1	100	245	P	H
		5128.44	46.34	-7.66	54	30.26	34.9	14.28	33.1	100	245	A	H
802.11n	*	5180	99.33	-	-	83.37	34.9	14.16	33.1	100	245	P	H
HT20		5180	93.84	-	-	77.88	34.9	14.16	33.1	100	245	A	H
CH 36		5128.18	54.1	-19.9	74	38.02	34.9	14.28	33.1	214	275	P	V
5180MHz		5045.24	45.04	-8.96	54	28.71	34.9	14.53	33.1	214	275	A	V
	*	5180	96.74	-	-	80.78	34.9	14.16	33.1	214	275	P	V
		5180	90.07	-	-	74.11	34.9	14.16	33.1	214	275	A	V
		5053.82	55.81	-18.19	74	39.48	34.9	14.53	33.1	103	244	P	H
		5040.56	44.91	-9.09	54	28.58	34.9	14.53	33.1	103	244	A	H
	*	5220	100.25	-	-	84.42	34.9	14.03	33.1	103	244	P	H
		5220	93.96	-	-	78.13	34.9	14.03	33.1	103	244	A	H
802.11n		5394.96	53.98	-20.02	74	37.42	34.9	14.76	33.1	103	244	P	H
HT20		5374.32	44.77	-9.23	54	28.36	34.9	14.61	33.1	103	244	A	H
CH 44		5087.62	54.66	-19.34	74	38.45	34.9	14.41	33.1	102	271	P	V
5220MHz		5077.74	44.95	-9.05	54	28.74	34.9	14.41	33.1	102	271	A	V
	*	5220	96.46	-	-	80.63	34.9	14.03	33.1	102	271	P	V
		5220	89.47	-	-	73.64	34.9	14.03	33.1	102	271	A	V
		5405.04	53.55	-20.45	74	36.99	34.9	14.76	33.1	102	271	P	V
		5394.48	44.69	-9.31	54	28.13	34.9	14.76	33.1	102	271	A	V

		5036.66	54.06	-19.94	74	37.73	34.9	14.53	33.1	103	240	P	H
		5033.54	44.99	-9.01	54	28.53	34.9	14.66	33.1	103	240	A	H
	*	5240	100.52	-	-	84.54	34.9	14.18	33.1	103	240	P	H
		5240	93.95	-	-	77.97	34.9	14.18	33.1	103	240	A	H
802.11n		5414.16	53.92	-20.08	74	37.36	34.9	14.76	33.1	103	240	P	H
HT20		5385.36	44.7	-9.3	54	28.29	34.9	14.61	33.1	103	240	A	H
CH 48		5095.68	54.06	-19.94	74	37.85	34.9	14.41	33.1	101	272	P	V
5240MHz		5042.12	44.98	-9.02	54	28.65	34.9	14.53	33.1	101	272	A	V
	*	5240	96.04	-	-	80.06	34.9	14.18	33.1	101	272	P	V
		5240	90.1	-	-	74.12	34.9	14.18	33.1	101	272	A	V
		5368.32	54.39	-19.61	74	37.98	34.9	14.61	33.1	101	272	P	V
		5371.2	44.72	-9.28	54	28.31	34.9	14.61	33.1	101	272	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 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	50.66	-17.54	68.2	50.73	38.47	20.45	58.99	152	260	P	H
HT20		15540	50.82	-23.18	74	45.16	41.43	23.16	58.93	189	238	P	H
CH 36		10360	50.01	-18.19	68.2	50.08	38.47	20.45	58.99	241	260	P	V
5180MHz		15540	50.12	-23.88	74	44.46	41.43	23.16	58.93	189	184	P	V
802.11n		10440	50.21	-17.99	68.2	50.17	38.49	20.47	58.92	150	230	P	H
HT20		15660	49.93	-24.07	74	44.17	41.56	23.26	59.06	160	225	P	H
CH 44		10440	50.3	-17.9	68.2	50.26	38.49	20.47	58.92	185	230	P	V
5220MHz		15660	50.79	-23.21	74	45.03	41.56	23.26	59.06	160	59	P	V
802.11n		10480	50.02	-18.18	68.2	49.9	38.5	20.48	58.86	126	238	P	H
HT20		15720	50.9	-23.1	74	45.1	41.62	23.3	59.12	186	329	P	H
CH 48		10480	50.42	-17.78	68.2	50.3	38.5	20.48	58.86	150	289	P	V
5240MHz		15720	50.32	-23.68	74	44.52	41.62	23.3	59.12	150	291	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		5149.76	59.24	-14.76	74	46.04	32.02	14.28	33.1	100	249	P	H
		5148.98	49.68	-4.32	54	36.48	32.02	14.28	33.1	100	249	A	H
	*	5190	96.75	-	-	83.64	32.05	14.16	33.1	100	249	P	H
		5190	91.68	-	-	78.57	32.05	14.16	33.1	100	249	A	H
		5392.52	51.31	-22.69	74	37.44	32.21	14.76	33.1	100	249	P	H
		5370.12	43.29	-10.71	54	29.59	32.19	14.61	33.1	100	249	A	H
		5150.02	56.05	-12.15	68.2	42.85	32.02	14.28	33.1	100	277	P	V
		5149.76	47.14	-6.86	54	33.94	32.02	14.28	33.1	100	277	A	V
	*	5190	93.16	-	-	80.05	32.05	14.16	33.1	100	277	P	V
		5190	87.45	-	-	74.34	32.05	14.16	33.1	100	277	A	V
		5399.52	50.92	-23.08	74	37.04	32.22	14.76	33.1	100	277	P	V
		5375.44	43	-11	54	29.3	32.19	14.61	33.1	100	277	A	V
802.11n HT40 CH 46 5230MHz		5059.54	54.04	-19.96	74	37.71	34.9	14.53	33.1	100	242	P	H
		5035.62	45.68	-8.32	54	29.22	34.9	14.66	33.1	100	242	A	H
	*	5230	97.9	-	-	82.07	34.9	14.03	33.1	100	242	P	H
		5230	91.57	-	-	75.74	34.9	14.03	33.1	100	242	A	H
		5430.6	53.54	-20.46	74	37.19	34.9	14.55	33.1	100	242	P	H
		5396.16	45.53	-8.47	54	28.97	34.9	14.76	33.1	100	242	A	H
		5115.18	54.87	-19.13	74	38.79	34.9	14.28	33.1	100	348	P	V
		5075.4	45.7	-8.3	54	29.37	34.9	14.53	33.1	100	348	A	V
	*	5230	92.21	-	-	76.38	34.9	14.03	33.1	100	348	P	V
		5230	86.94	-	-	71.11	34.9	14.03	33.1	100	348	A	V
		5451.04	54.22	-19.78	74	37.87	34.9	14.55	33.1	100	348	P	V
		5412.12	45.64	-8.36	54	29.08	34.9	14.76	33.1	100	348	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		10380	46.95	-21.25	68.2	51.46	39.87	14.59	58.97	150	360	P	H
HT40		15570	47.09	-26.91	74	49.91	38.71	17.44	58.97	155	360	P	H
CH 38		10380	46.41	-21.79	68.2	50.92	39.87	14.59	58.97	150	360	P	V
5190MHz		15570	47.02	-26.98	74	49.84	38.71	17.44	58.97	155	360	P	V
802.11n		10460	50.36	-17.84	68.2	50.29	38.49	20.48	58.9	150	360	P	H
HT40		15690	50.5	-23.5	74	44.7	41.59	23.3	59.09	150	225	P	H
CH 46		10460	50.6	-17.6	68.2	50.53	38.49	20.48	58.9	150	360	P	V
5230MHz		15690	50.13	-23.87	74	44.33	41.59	23.3	59.09	150	225	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 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		5148.46	57.8	-16.2	74	41.72	34.9	14.28	33.1	100	244	P	H
		5145.08	49.97	-4.03	54	33.89	34.9	14.28	33.1	100	244	A	H
	*	5210	94.38	-	-	78.55	34.9	14.03	33.1	100	244	P	H
		5210	88.21	-	-	72.38	34.9	14.03	33.1	100	244	A	H
		5423.52	53.52	-20.48	74	36.96	34.9	14.76	33.1	100	244	P	H
		5417.52	46.99	-7.01	54	30.43	34.9	14.76	33.1	100	244	A	H
		5135.2	54.25	-19.75	74	38.17	34.9	14.28	33.1	107	347	P	V
		5127.4	47.76	-6.24	54	31.68	34.9	14.28	33.1	107	347	A	V
	*	5210	88.14	-	-	72.31	34.9	14.03	33.1	107	347	P	V
		5210	83.03	-	-	67.2	34.9	14.03	33.1	107	347	A	V
		5406.72	53.41	-20.59	74	36.85	34.9	14.76	33.1	107	347	P	V
		5386.8	46.74	-7.26	54	30.33	34.9	14.61	33.1	107	347	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 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	50.23	-17.97	68.2	50.21	38.48	20.47	58.93	144	223	P	H
VHT80		15630	49.95	-24.05	74	44.22	41.54	23.23	59.04	174	269	P	H
CH 42		10420	50.6	-17.6	68.2	50.58	38.48	20.47	58.93	150	230	P	V
5210MHz		15630	50.32	-23.68	74	44.59	41.54	23.23	59.04	160	225	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 - 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		5044.45	54.65	-19.35	74	38.32	34.9	14.53	33.1	126	243	P	H
		5074.2	44.86	-9.14	54	28.53	34.9	14.53	33.1	126	243	A	H
	*	5260	99.44	-	-	83.46	34.9	14.18	33.1	126	243	P	H
		5260	93.47	-	-	77.49	34.9	14.18	33.1	126	243	A	H
		5352	54.53	-19.47	74	38.12	34.9	14.61	33.1	126	243	P	H
		5405.76	44.83	-9.17	54	28.27	34.9	14.76	33.1	126	243	A	H
		5069.65	53.46	-20.54	74	37.13	34.9	14.53	33.1	126	278	P	V
		5010.85	44.96	-9.04	54	28.5	34.9	14.66	33.1	126	278	A	V
	*	5260	96.96	-	-	80.98	34.9	14.18	33.1	126	278	P	V
		5260	90.17	-	-	74.19	34.9	14.18	33.1	126	278	A	V
		5376.24	53.91	-20.09	74	37.5	34.9	14.61	33.1	126	278	P	V
		5371.2	44.74	-9.26	54	28.33	34.9	14.61	33.1	126	278	A	V
802.11a CH 60 5300MHz		5145.95	53.54	-20.46	74	37.46	34.9	14.28	33.1	110	243	P	H
		5037.1	44.89	-9.11	54	28.56	34.9	14.53	33.1	110	243	A	H
	*	5300	100.45	-	-	84.33	34.9	14.32	33.1	110	243	P	H
		5300	93.98	-	-	77.86	34.9	14.32	33.1	110	243	A	H
		5406.96	53.78	-20.22	74	37.22	34.9	14.76	33.1	110	243	P	H
		5352.24	46.23	-7.77	54	29.82	34.9	14.61	33.1	110	243	A	H
		5016.1	54.2	-19.8	74	37.74	34.9	14.66	33.1	106	278	P	V
		5040.6	44.93	-9.07	54	28.6	34.9	14.53	33.1	106	278	A	V
	*	5300	96.18	-	-	80.06	34.9	14.32	33.1	106	278	P	V
		5300	89.24	-	-	73.12	34.9	14.32	33.1	106	278	A	V
		5459.04	53.92	-20.08	74	37.57	34.9	14.55	33.1	106	278	P	V
		5352.72	45.43	-8.57	54	29.02	34.9	14.61	33.1	106	278	A	V

802.11a CH 64 5320MHz	*	5320	100.3	-	-	84.03	34.9	14.47	33.1	104	240	P	H
		5320	93.69	-	-	77.42	34.9	14.47	33.1	104	240	A	H
		5373.28	54.59	-19.41	74	38.18	34.9	14.61	33.1	104	240	P	H
		5372.32	46.2	-7.8	54	29.79	34.9	14.61	33.1	104	240	A	H
	*	5320	96.78	-	-	80.51	34.9	14.47	33.1	100	278	P	V
		5320	90.06	-	-	73.79	34.9	14.47	33.1	100	278	A	V
		5439.2	53.72	-20.28	74	37.37	34.9	14.55	33.1	100	278	P	V
		5372	45.17	-8.83	54	28.76	34.9	14.61	33.1	100	278	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11a (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	50.21	-17.99	68.2	50.05	38.49	20.49	58.82	129	266	P	H
		15780	50.33	-23.67	74	44.46	41.68	23.37	59.18	146	275	P	H
		10520	50.2	-18	68.2	50.04	38.49	20.49	58.82	150	220	P	V
		15780	50.12	-23.88	74	44.25	41.68	23.37	59.18	159	345	P	V
802.11a CH 60 5300MHz		10600	50.54	-23.46	74	50.3	38.46	20.51	58.73	189	235	P	H
		15900	50.18	-23.82	74	44.21	41.8	23.47	59.3	136	145	P	H
		10600	49.94	-24.06	74	49.7	38.46	20.51	58.73	185	215	P	V
		15900	50.77	-23.23	74	44.8	41.8	23.47	59.3	196	190	P	V
802.11a CH 64 5320MHz		10640	50.08	-23.92	74	49.8	38.44	20.53	58.69	196	153	P	H
		15960	50.1	-23.9	74	44.06	41.87	23.54	59.37	157	269	P	H
		10640	49.92	-24.08	74	49.64	38.44	20.53	58.69	152	135	P	V
		15960	50.02	-23.98	74	43.98	41.87	23.54	59.37	173	245	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 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)
		5148.46	54.67	-19.33	74	38.59	34.9	14.28	33.1	100	242	P	H
		5074.36	44.92	-9.08	54	28.59	34.9	14.53	33.1	100	242	A	H
	*	5260	100.78	-	-	84.8	34.9	14.18	33.1	100	242	P	H
		5260	94.13	-	-	78.15	34.9	14.18	33.1	100	242	A	H
802.11n		5376.48	54.15	-19.85	74	37.74	34.9	14.61	33.1	100	242	P	H
HT20		5407.44	44.67	-9.33	54	28.11	34.9	14.76	33.1	100	242	A	H
CH 52		5078.52	56.06	-17.94	74	39.85	34.9	14.41	33.1	110	272	P	V
5260MHz		5031.2	45.03	-8.97	54	28.57	34.9	14.66	33.1	110	272	A	V
	*	5260	95.99	-	-	80.01	34.9	14.18	33.1	110	272	P	V
		5260	89.4	-	-	73.42	34.9	14.18	33.1	110	272	A	V
		5394.96	54.42	-19.58	74	37.86	34.9	14.76	33.1	110	272	P	V
		5455.2	44.65	-9.35	54	28.3	34.9	14.55	33.1	110	272	A	V
		5121.45	54.63	-19.37	74	38.55	34.9	14.28	33.1	102	244	P	H
		5030.1	45.01	-8.99	54	28.55	34.9	14.66	33.1	102	244	A	H
	*	5300	100.56	-	-	84.44	34.9	14.32	33.1	102	244	P	H
		5300	94.09	-	-	77.97	34.9	14.32	33.1	102	244	A	H
802.11n		5412.24	53.93	-20.07	74	37.37	34.9	14.76	33.1	102	244	P	H
HT20		5351.52	46.69	-7.31	54	30.28	34.9	14.61	33.1	102	244	A	H
CH 60		5014	54.2	-19.8	74	37.74	34.9	14.66	33.1	105	275	P	V
5300MHz		5050.75	45.02	-8.98	54	28.69	34.9	14.53	33.1	105	275	A	V
	*	5300	96.35	-	-	80.23	34.9	14.32	33.1	105	275	P	V
		5300	89.94	-	-	73.82	34.9	14.32	33.1	105	275	A	V
		5456.88	53.95	-20.05	74	37.6	34.9	14.55	33.1	105	275	P	V
		5352.24	45.53	-8.47	54	29.12	34.9	14.61	33.1	105	275	A	V

	*	5320	100.69	-	-	84.42	34.9	14.47	33.1	101	242	P	H
		5320	93.24	-	-	76.97	34.9	14.47	33.1	101	242	A	H
802.11n		5437.76	54.1	-19.9	74	37.75	34.9	14.55	33.1	101	242	P	H
HT20		5372	46.3	-7.7	54	29.89	34.9	14.61	33.1	101	242	A	H
CH 64	*	5320	97.19	-	-	80.92	34.9	14.47	33.1	103	280	P	V
5320MHz		5320	90.66	-	-	74.39	34.9	14.47	33.1	103	280	A	V
		5350.08	54.36	-19.64	74	37.95	34.9	14.61	33.1	103	280	P	V
		5371.68	45.43	-8.57	54	29.02	34.9	14.61	33.1	103	280	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11n 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	46.35	-21.85	68.2	46.19	38.49	20.49	58.82	150	220	P	H
HT20		15780	50.34	-23.66	74	44.47	41.68	23.37	59.18	159	345	P	H
CH 52		10520	46.31	-21.89	68.2	46.15	38.49	20.49	58.82	150	220	P	V
5260MHz		15780	50.12	-23.88	74	44.25	41.68	23.37	59.18	159	345	P	V
802.11n		10600	49.7	-24.3	74	49.46	38.46	20.51	58.73	185	215	P	H
HT20		15900	50.6	-23.4	74	44.63	41.8	23.47	59.3	196	190	P	H
CH 60		10600	50.34	-23.66	74	50.1	38.46	20.51	58.73	185	215	P	V
5300MHz		15900	50.75	-23.25	74	44.78	41.8	23.47	59.3	196	190	P	V
802.11n		10640	49.63	-24.37	74	49.35	38.44	20.53	58.69	152	135	P	H
HT20		15960	50.56	-23.44	74	44.52	41.87	23.54	59.37	173	245	P	H
CH 64		10640	50.44	-23.56	74	50.16	38.44	20.53	58.69	152	135	P	V
5320MHz		15960	50.84	-23.16	74	44.8	41.87	23.54	59.37	173	245	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 54 5270MHz		5046.9	53.6	-20.4	74	37.27	34.9	14.53	33.1	100	244	P	H
		5043.75	45.68	-8.32	54	29.35	34.9	14.53	33.1	100	244	A	H
	*	5270	97.02	-	-	81.04	34.9	14.18	33.1	100	244	P	H
		5270	91.51	-	-	75.53	34.9	14.18	33.1	100	244	A	H
		5412.96	53.53	-20.47	74	36.97	34.9	14.76	33.1	100	244	P	H
		5376.48	45.94	-8.06	54	29.53	34.9	14.61	33.1	100	244	A	H
		5043.4	54.4	-19.6	74	38.07	34.9	14.53	33.1	100	348	P	V
		5049.7	45.71	-8.29	54	29.38	34.9	14.53	33.1	100	348	A	V
	*	5270	92.55	-	-	76.57	34.9	14.18	33.1	100	348	P	V
		5270	86.73	-	-	70.75	34.9	14.18	33.1	100	348	A	V
		5351.76	54.07	-19.93	74	37.66	34.9	14.61	33.1	100	348	P	V
		5377.44	45.6	-8.4	54	29.19	34.9	14.61	33.1	100	348	A	V
802.11n HT40 CH 62 5310MHz		5124.6	54.16	-19.84	74	38.08	34.9	14.28	33.1	100	245	P	H
		5031.5	45.59	-8.41	54	29.13	34.9	14.66	33.1	100	245	A	H
	*	5310	97.55	-	-	81.28	34.9	14.47	33.1	100	245	P	H
		5310	91.78	-	-	75.51	34.9	14.47	33.1	100	245	A	H
		5352.72	57.5	-16.5	74	41.09	34.9	14.61	33.1	100	245	P	H
		5351.28	48.18	-5.82	54	31.77	34.9	14.61	33.1	100	245	A	H
		5039.9	53.99	-20.01	74	37.66	34.9	14.53	33.1	100	350	P	V
		5093.8	45.82	-8.18	54	29.61	34.9	14.41	33.1	100	350	A	V
	*	5310	92.57	-	-	76.3	34.9	14.47	33.1	100	350	P	V
		5310	87.42	-	-	71.15	34.9	14.47	33.1	100	350	A	V
		5352.72	55.04	-18.96	74	38.63	34.9	14.61	33.1	100	350	P	V
		5353.68	46.25	-7.75	54	29.84	34.9	14.61	33.1	100	350	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11n 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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		10540	50.66	-17.54	68.2	50.47	38.49	20.5	58.8	150	220	P	H
HT40		15810	50.69	-23.31	74	44.79	41.71	23.4	59.21	168	345	P	H
CH 54		10540	50.79	-17.41	68.2	50.6	38.49	20.5	58.8	150	220	P	V
5270MHz		15810	50.05	-23.95	74	44.15	41.71	23.4	59.21	168	345	P	V
802.11n		10620	49.17	-24.83	74	48.9	38.45	20.53	58.71	150	220	P	H
HT40		15930	50.09	-23.91	74	44.09	41.83	23.5	59.33	160	100	P	H
CH 62		10620	49.76	-24.24	74	49.49	38.45	20.53	58.71	150	220	P	V
5310MHz		15930	49.66	-24.34	74	43.66	41.83	23.5	59.33	160	100	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11ac VHT80 (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		5065.78	53.7	-20.3	74	37.37	34.9	14.53	33.1	100	244	P	H
		5046.28	47.71	-6.29	54	31.38	34.9	14.53	33.1	100	244	A	H
	*	5290	93.49	-	-	77.37	34.9	14.32	33.1	100	244	P	H
		5290	87.31	-	-	71.19	34.9	14.32	33.1	100	244	A	H
		5365.68	54.57	-19.43	74	38.16	34.9	14.61	33.1	100	244	P	H
		5373.12	47.97	-6.03	54	31.56	34.9	14.61	33.1	100	244	A	H
		5019.5	54.33	-19.67	74	37.87	34.9	14.66	33.1	100	347	P	V
		5060.32	47.25	-6.75	54	30.92	34.9	14.53	33.1	100	347	A	V
	*	5290	89.22	-	-	73.1	34.9	14.32	33.1	100	347	P	V
		5290	83.65	-	-	67.53	34.9	14.32	33.1	100	347	A	V
		5388.24	53.79	-20.21	74	37.23	34.9	14.76	33.1	100	347	P	V
		5360.88	47.01	-6.99	54	30.6	34.9	14.61	33.1	100	347	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac		10580	50.06	-18.14	68.2	49.83	38.47	20.51	58.75	215	196	P	H
VHT80		15870	50.02	-23.98	74	44.09	41.78	23.43	59.28	148	315	P	H
CH 58		10580	50.59	-17.61	68.2	50.36	38.47	20.51	58.75	150	220	P	V
5290MHz		15870	49.57	-24.43	74	43.64	41.78	23.43	59.28	168	345	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11a (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		5389.68	53.95	-20.05	74	37.39	34.9	14.76	33.1	108	241	P	H
		5463.76	53.53	-14.67	68.2	37.18	34.9	14.55	33.1	108	241	P	H
		5447.44	45.53	-8.47	54	29.18	34.9	14.55	33.1	108	241	A	H
	*	5500	99.1	-	-	82.96	34.9	14.34	33.1	108	241	P	H
		5500	92.96	-	-	76.82	34.9	14.34	33.1	108	241	A	H
		5439.76	54.23	-19.77	74	37.88	34.9	14.55	33.1	100	280	P	V
		5463.12	52.84	-15.36	68.2	36.49	34.9	14.55	33.1	100	280	P	V
		5447.76	45.12	-8.88	54	28.77	34.9	14.55	33.1	100	280	A	V
	*	5500	96.72	-	-	80.58	34.9	14.34	33.1	100	280	P	V
		5500	90.1	-	-	73.96	34.9	14.34	33.1	100	280	A	V
802.11a CH 116 5580MHz		5374.48	54.19	-19.81	74	37.78	34.9	14.61	33.1	100	239	P	H
		5466.64	53.86	-14.34	68.2	37.72	34.9	14.34	33.1	100	239	P	H
		5392.48	44.68	-9.32	54	28.12	34.9	14.76	33.1	100	239	A	H
	*	5580	97.27	-	-	81.41	35.04	13.92	33.1	100	239	P	H
		5580	90.49	-	-	74.63	35.04	13.92	33.1	100	239	A	H
		5756.81	53.89	-14.31	68.2	37.59	35.42	13.98	33.1	100	239	P	H
		5388.88	53.86	-20.14	74	37.3	34.9	14.76	33.1	104	284	P	V
		5461.36	52.43	-15.77	68.2	36.08	34.9	14.55	33.1	104	284	P	V
		5377.84	44.61	-9.39	54	28.2	34.9	14.61	33.1	104	284	A	V
	*	5580	95.52	-	-	79.66	35.04	13.92	33.1	104	284	P	V
		5580	87.9	-	-	72.04	35.04	13.92	33.1	104	284	A	V
		5739.8	52.89	-15.31	68.2	36.63	35.38	13.98	33.1	104	284	P	V

802.11a CH 140 5700MHz	*	5700	97.5	-	-	81.41	35.28	13.91	33.1	107	231	P	H
		5700	90.82	-	-	74.73	35.28	13.91	33.1	107	231	A	H
		5727.24	55.24	-12.96	68.2	39.08	35.35	13.91	33.1	107	231	P	H
	*	5700	96.63	-	-	80.54	35.28	13.91	33.1	104	291	P	V
		5700	89.81	-	-	73.72	35.28	13.91	33.1	104	291	A	V
		5725.32	55.08	-13.12	68.2	38.92	35.35	13.91	33.1	104	291	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11a (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	50.08	-23.92	74	49.46	38.3	20.62	58.3	148	219	P	H
		16500	50.59	-17.61	68.2	43.14	42.3	23.99	58.84			P	H
		11000	50.64	-23.36	74	50.02	38.3	20.62	58.3	163	230	P	V
		16500	50.83	-17.37	68.2	43.38	42.3	23.99	58.84	178	296	P	V
802.11a CH 116 5580MHz		11160	50.25	-23.75	74	49.18	38.5	20.68	58.11	148	232	P	H
		16740	50.51	-17.69	68.2	42.85	42.01	24.23	58.58	136	342	P	H
		11160	50.45	-23.55	74	49.38	38.5	20.68	58.11	170	200	P	V
		16740	50.4	-17.8	68.2	42.74	42.01	24.23	58.58	156	350	P	V
802.11a CH 140 5700MHz		11400	50.48	-23.52	74	48.8	38.78	20.75	57.85	136	246	P	H
		17100	50.12	-18.08	68.2	42.08	41.66	24.54	58.16	155	196	P	H
		11400	50.65	-23.35	74	48.97	38.78	20.75	57.85	157	285	P	V
		17100	50.83	-17.37	68.2	42.79	41.66	24.54	58.16	165	246	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11n 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)
		5394	53.99	-20.01	74	37.43	34.9	14.76	33.1	100	242	P	H
		5461.04	53.31	-14.89	68.2	36.96	34.9	14.55	33.1	100	242	P	H
		5448.4	45.85	-8.15	54	29.5	34.9	14.55	33.1	100	242	A	H
802.11n	*	5500	98.67	-	-	82.53	34.9	14.34	33.1	100	242	P	H
HT20		5500	92.05	-	-	75.91	34.9	14.34	33.1	100	242	A	H
CH 100		5418.32	53.8	-20.2	74	37.24	34.9	14.76	33.1	216	284	P	V
5500MHz		5469.2	53.14	-15.06	68.2	37	34.9	14.34	33.1	216	284	P	V
		5448.24	44.89	-9.11	54	28.54	34.9	14.55	33.1	216	284	A	V
	*	5500	95.92	-	-	79.78	34.9	14.34	33.1	216	284	P	V
		5500	89.62	-	-	73.48	34.9	14.34	33.1	216	284	A	V
		5402.32	54.04	-19.96	74	37.48	34.9	14.76	33.1	101	187	P	H
		5461.36	53.51	-14.69	68.2	37.16	34.9	14.55	33.1	101	187	P	H
		5384.8	44.69	-9.31	54	28.28	34.9	14.61	33.1	101	187	A	H
	*	5580	97.07	-	-	81.21	35.04	13.92	33.1	101	187	P	H
802.11n		5580	90.81	-	-	74.95	35.04	13.92	33.1	101	187	A	H
HT20		5738.225	54.24	-13.96	68.2	38.05	35.38	13.91	33.1	101	187	P	H
CH 116		5424.64	54.09	-19.91	74	37.53	34.9	14.76	33.1	214	288	P	V
5580MHz		5469.76	53.42	-14.78	68.2	37.28	34.9	14.34	33.1	214	288	P	V
		5393.68	44.76	-9.24	54	28.2	34.9	14.76	33.1	214	288	A	V
	*	5580	93.64	-	-	77.78	35.04	13.92	33.1	214	288	P	V
		5580	87.7	-	-	71.84	35.04	13.92	33.1	214	288	A	V
		5742.635	53.69	-14.51	68.2	37.43	35.38	13.98	33.1	214	288	P	V

802.11n HT20 CH 140 5700MHz	*	5700	98.73	-	-	82.64	35.28	13.91	33.1	100	155	P	H
		5700	91.82	-	-	75.73	35.28	13.91	33.1	100	155	A	H
		5725.88	58.63	-9.57	68.2	42.47	35.35	13.91	33.1	100	155	P	H
	*	5700	93.88	-	-	77.79	35.28	13.91	33.1	109	260	P	V
		5700	88.45	-	-	72.36	35.28	13.91	33.1	109	260	A	V
		5727.64	55.71	-12.49	68.2	39.55	35.35	13.91	33.1	109	260	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11n 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	50.04	-23.96	74	49.42	38.3	20.62	58.3	163	230	P	H
HT20		16500	50.77	-17.43	68.2	43.32	42.3	23.99	58.84	178	296	P	H
CH 100		11000	49.93	-24.07	74	49.31	38.3	20.62	58.3	163	230	P	V
5500MHz		16500	50.78	-17.42	68.2	43.33	42.3	23.99	58.84	178	296	P	V
802.11n		11160	50.36	-23.64	74	49.29	38.5	20.68	58.11	170	200	P	H
HT20		16740	50.36	-17.84	68.2	42.7	42.01	24.23	58.58	156	350	P	H
CH 116		11160	50.28	-23.72	74	49.21	38.5	20.68	58.11	170	200	P	V
5580MHz		16740	50.04	-18.16	68.2	42.38	42.01	24.23	58.58	156	350	P	V
802.11n		11400	50.31	-23.69	74	48.63	38.78	20.75	57.85	157	285	P	H
HT20		17100	50.19	-18.01	68.2	42.15	41.66	24.54	58.16	165	246	P	H
CH 140		11400	49.9	-24.1	74	48.22	38.78	20.75	57.85	157	285	P	V
5700MHz		17100	50.62	-17.58	68.2	42.58	41.66	24.54	58.16	165	246	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11n HT40 (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)
		5360.8	54.56	-19.44	74	38.15	34.9	14.61	33.1	100	241	P	H
		5470	56.21	-11.99	68.2	40.07	34.9	14.34	33.1	100	241	P	H
		5459.44	45.38	-8.62	54	29.03	34.9	14.55	33.1	100	241	A	H
	*	5510	97.31	-	-	81.38	34.9	14.13	33.1	100	241	P	H
802.11n		5510	92.13	-	-	76.2	34.9	14.13	33.1	100	241	A	H
HT40		5758.07	54.13	-14.07	68.2	37.83	35.42	13.98	33.1	100	241	P	H
CH 102		5453.2	54.37	-19.63	74	38.02	34.9	14.55	33.1	100	284	P	V
5510MHz		5470	54.37	-13.83	68.2	38.23	34.9	14.34	33.1	100	284	P	V
		5428.24	45.41	-8.59	54	29.06	34.9	14.55	33.1	100	284	A	V
	*	5510	92.97	-	-	77.04	34.9	14.13	33.1	100	284	P	V
		5510	87.48	-	-	71.55	34.9	14.13	33.1	100	284	A	V
		5759.01	53.37	-14.83	68.2	37.07	35.42	13.98	33.1	100	284	P	V
		5353.6	54.26	-19.74	74	37.85	34.9	14.61	33.1	100	240	P	H
		5464.24	52.86	-15.34	68.2	36.51	34.9	14.55	33.1	100	240	P	H
		5382.16	45.29	-8.71	54	28.88	34.9	14.61	33.1	100	240	A	H
	*	5550	97.38	-	-	81.56	35	13.92	33.1	100	240	P	H
802.11n		5550	90.97	-	-	75.15	35	13.92	33.1	100	240	A	H
HT40		5746.41	53.17	-15.03	68.2	36.91	35.38	13.98	33.1	100	240	P	H
CH 110		5400.16	54.29	-19.71	74	37.73	34.9	14.76	33.1	100	285	P	V
5550MHz		5466.16	52.62	-15.58	68.2	36.48	34.9	14.34	33.1	100	285	P	V
		5381.2	45.27	-8.73	54	28.86	34.9	14.61	33.1	100	285	A	V
	*	5550	93.47	-	-	77.65	35	13.92	33.1	100	285	P	V
		5550	87.13	-	-	71.31	35	13.92	33.1	100	285	A	V
		5748.30	53.58	-14.62	68.2	37.32	35.38	13.98	33.1	100	285	P	V

		5379.75	53.56	-20.44	74	37.15	34.9	14.61	33.1	100	206	P	H
		5462.35	52.37	-15.83	68.2	36.02	34.9	14.55	33.1	100	206	P	H
		5369.95	45.34	-8.66	54	28.93	34.9	14.61	33.1	100	206	A	H
	*	5670	97.26	-	-	81.27	35.24	13.85	33.1	100	206	P	H
802.11n		5670	90.97	-	-	74.98	35.24	13.85	33.1	100	206	A	H
HT40		5757.65	53.67	-14.53	68.2	37.37	35.42	13.98	33.1	100	206	P	H
CH 134		5387.1	53.55	-20.45	74	37.14	34.9	14.61	33.1	100	355	P	V
5670MHz		5463.75	52.82	-15.38	68.2	36.47	34.9	14.55	33.1	100	355	P	V
		5382.2	45.23	-8.77	54	28.82	34.9	14.61	33.1	100	355	A	V
	*	5670	92.74	-	-	76.75	35.24	13.85	33.1	100	355	P	V
		5670	87.4	-	-	71.41	35.24	13.85	33.1	100	355	A	V
		5727.025	53.75	-14.45	68.2	37.59	35.35	13.91	33.1	100	355	P	V

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

Band 3 - 5470~5725MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		11020	49.45	-24.55	74	48.77	38.32	20.64	58.28	170	230	P	H
HT40		16530	50.53	-17.67	68.2	43.05	42.26	24.02	58.8	160	300	P	H
CH 102		11020	50.51	-23.49	74	49.83	38.32	20.64	58.28	170	230	P	V
5510MHz		16530	50.67	-17.53	68.2	43.19	42.26	24.02	58.8	160	300	P	V
802.11n		11100	49.81	-24.19	74	48.92	38.42	20.66	58.19	150	200	P	H
HT40		16650	50.75	-17.45	68.2	43.18	42.11	24.13	58.67	180	350	P	H
CH 110		11100	50.05	-23.95	74	49.16	38.42	20.66	58.19	150	200	P	V
5550MHz		16650	50.05	-18.15	68.2	42.48	42.11	24.13	58.67	180	350	P	V
802.11n		11340	50.18	-23.82	74	48.69	38.7	20.72	57.93	200	360	P	H
HT40		17010	50.63	-17.57	68.2	42.75	41.69	24.47	58.28	200	360	P	H
CH 134		11340	50.44	-23.56	74	48.95	38.7	20.72	57.93	200	360	P	V
5670MHz		17010	50.3	-17.9	68.2	42.42	41.69	24.47	58.28	200	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11ac 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)
		5447.68	56.2	-17.8	74	39.85	34.9	14.55	33.1	100	240	P	H
		5463.04	56.83	-11.37	68.2	40.48	34.9	14.55	33.1	100	240	P	H
		5453.68	50.14	-3.86	54	33.79	34.9	14.55	33.1	100	240	A	H
	*	5530	93.63	-	-	77.67	34.93	14.13	33.1	100	240	P	H
802.11ac		5530	86.98	-	-	71.02	34.93	14.13	33.1	100	240	A	H
VHT80		5753.66	53.59	-14.61	68.2	37.29	35.42	13.98	33.1	100	240	P	H
CH 106		5457.28	54.51	-19.49	74	38.16	34.9	14.55	33.1	100	283	P	V
5530MHz		5463.04	55.33	-12.87	68.2	38.98	34.9	14.55	33.1	100	283	P	V
		5459.92	48.5	-5.5	54	32.15	34.9	14.55	33.1	100	283	A	V
	*	5530	89.27	-	-	73.31	34.93	14.13	33.1	100	283	P	V
		5530	83.99	-	-	68.03	34.93	14.13	33.1	100	283	A	V
		5727.83	53.66	-14.54	68.2	37.5	35.35	13.91	33.1	100	283	P	V
		5456.8	53.82	-20.18	74	37.47	34.9	14.55	33.1	100	235	P	H
		5465.2	52.45	-15.75	68.2	36.1	34.9	14.55	33.1	100	235	P	H
		5409.28	46.86	-7.14	54	30.3	34.9	14.76	33.1	100	235	A	H
	*	5610	93.3	-	-	77.58	35.11	13.71	33.1	100	235	P	H
802.11ac		5610	85.75	-	-	70.03	35.11	13.71	33.1	100	235	A	H
VHT80		5763.6	53.61	-14.59	68.2	37.31	35.42	13.98	33.1	100	235	P	H
CH 122		5456.8	53.68	-20.32	74	37.33	34.9	14.55	33.1	100	288	P	V
5610MHz		5460.88	53.98	-14.22	68.2	37.63	34.9	14.55	33.1	100	288	P	V
		5399.92	46.97	-7.03	54	30.41	34.9	14.76	33.1	100	288	A	V
	*	5610	89.37	-	-	73.65	35.11	13.71	33.1	100	288	P	V
		5610	82.97	-	-	67.25	35.11	13.71	33.1	100	288	A	V
		5736.825	53.87	-14.33	68.2	37.68	35.38	13.91	33.1	100	288	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 5470~5725MHz

WIFI 802.11ac 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	49.81	-24.19	74	49.01	38.38	20.65	58.23	125	263	P	H
VHT80		16590	50.32	-17.88	68.2	42.78	42.2	24.09	58.75	174	328	P	H
CH 106		11060	50.21	-23.79	74	49.41	38.38	20.65	58.23	150	200	P	V
5530MHz		16590	50.6	-17.6	68.2	43.06	42.2	24.09	58.75	180	350	P	V
802.11ac		11220	50.08	-23.92	74	48.89	38.56	20.69	58.06	125	278	P	H
VHT80		16830	50.54	-17.66	68.2	42.82	41.91	24.3	58.49	162	278	P	H
CH 122		11220	50.47	-23.53	74	49.28	38.56	20.69	58.06	200	360	P	V
5610MHz		16830	50.07	-18.13	68.2	42.35	41.91	24.3	58.49	200	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 144 5720MHz		11440	50.27	-23.73	74	48.51	38.82	20.76	57.82	154	312	P	H
		17160	50.9	-17.3	68.2	42.75	41.63	24.58	58.06	129	165	P	H
		11440	50.92	-23.08	74	49.16	38.82	20.76	57.82	157	285	P	V
		17160	50.54	-17.66	68.2	42.39	41.63	24.58	58.06	165	246	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 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		11440	50.07	-23.93	74	48.31	38.82	20.76	57.82	157	285	P	H
HT20		17160	50.19	-18.01	68.2	42.04	41.63	24.58	58.06	165	246	P	H
CH 144		11440	50.46	-23.54	74	48.7	38.82	20.76	57.82	154	312	P	V
5720MHz		17160	50.16	-18.04	68.2	42.01	41.63	24.58	58.06	129	165	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 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)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		11420	49.95	-24.05	74	48.23	38.8	20.75	57.83	157	285	P	H
HT40		17130	50.31	-17.89	68.2	42.19	41.65	24.58	58.11	165	246	P	H
CH 142		11420	50.47	-23.53	74	48.75	38.8	20.75	57.83	157	285	P	V
5710MHz		17130	50.48	-17.72	68.2	42.36	41.65	24.58	58.11	165	246	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 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		11380	50.11	-23.89	74	48.49	38.76	20.73	57.87	125	327	P	H
VHT80		17070	50.69	-17.51	68.2	42.72	41.67	24.51	58.21	248	316	P	H
CH 138		11380	50.85	-23.15	74	49.23	38.76	20.73	57.87	200	360	P	V
5690MHz		17070	50.11	-18.09	68.2	42.14	41.67	24.51	58.21	200	360	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 (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)
802.11ac VHT80 LF		30	25.11	-14.89	40	31.78	24.4	0.23	31.3	142	169	P	H
		201.69	26.71	-16.79	43.5	40.83	15.57	1.63	31.32	-	-	P	H
		311.3	29.44	-16.56	46	39.26	19.48	2.08	31.38	-	-	P	H
		523.73	26.17	-19.83	46	30.99	23.66	2.77	31.25	-	-	P	H
		644.98	28	-18	46	31.6	24.68	3.14	31.42	-	-	P	H
		35.82	32.06	-7.94	40	42.31	20.92	0.33	31.5	187	189	P	V
		65.89	29.75	-10.25	40	47.86	12.74	0.55	31.4	-	-	P	V
		159.01	27.19	-16.31	43.5	41.13	16.07	1.37	31.38	-	-	P	V
		312.27	23.79	-22.21	46	33.58	19.5	2.09	31.38	-	-	P	V
		640.13	27.77	-18.23	46	31.44	24.66	3.12	31.45	-	-	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	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)

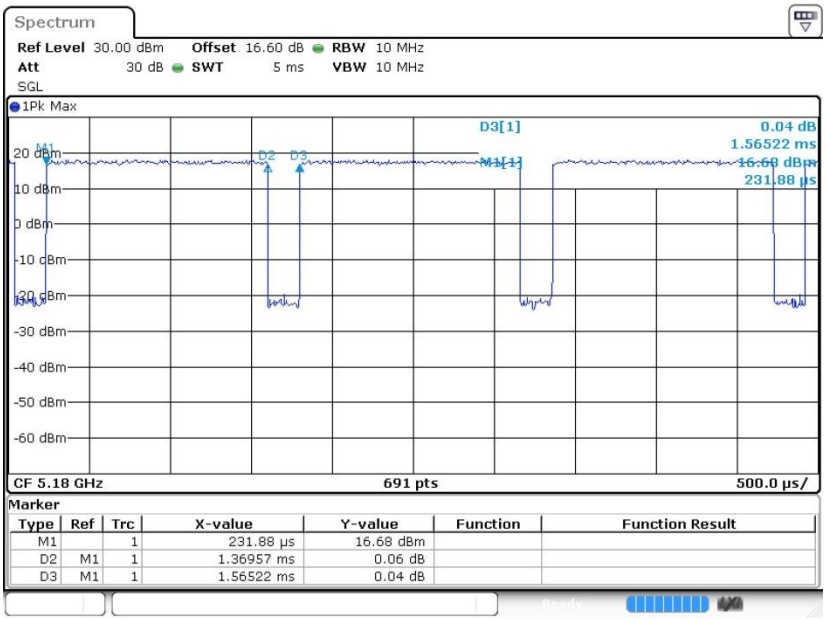
= -10.46(dB)

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

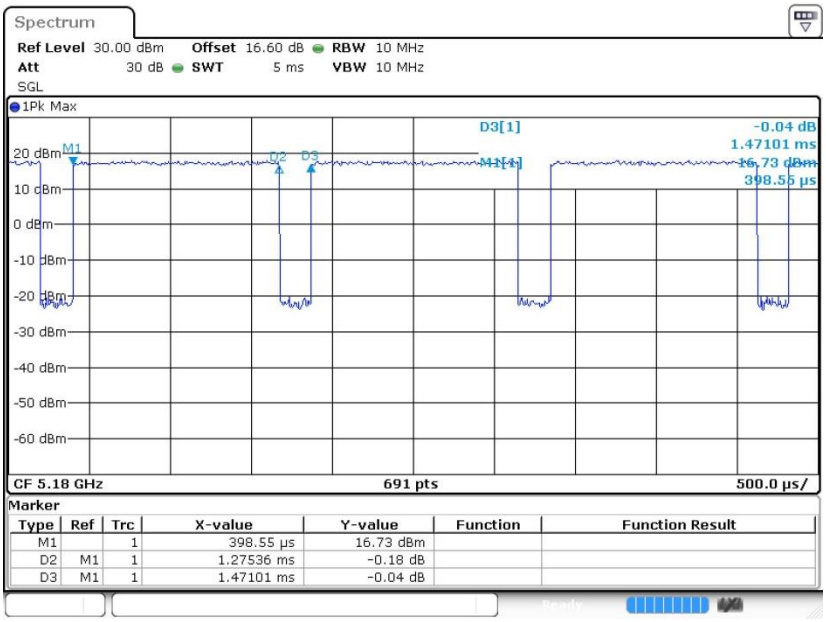
Appendix D. Duty Cycle Plots

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	87.50	1.370	0.730	1KHz
802.11n HT20	86.70	1.275	0.784	1KHz
802.11n HT40	76.19	0.638	1.568	3KHz
802.11ac VHT80	55.16	0.248	4.035	10KHZ

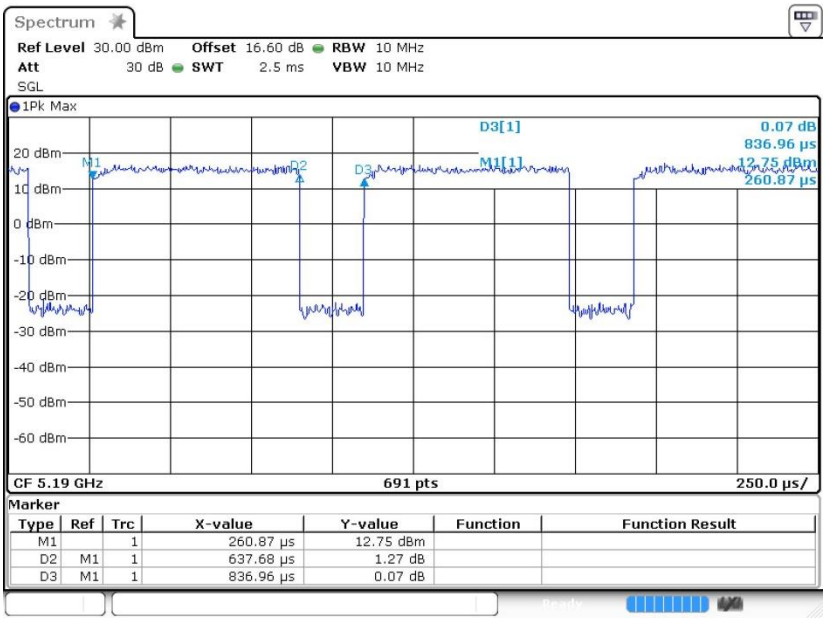
802.11a



802.11n HT20



802.11n HT40



802.11ac VHT80