

FCC RF Test Report

APPLICANT : PAX Technology Limited
EQUIPMENT : Wireless Data Terminal
BRAND NAME : PAX
MODEL NAME : X3s
FCC ID : V5PX3S
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure

The product was received on Jun. 24, 2019 and testing was completed on Dec. 31, 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
FR962408E	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 3.13 dB at 11000.000 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 4.90 dB at 0.490 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	X3s
FCC ID	V5PX3S
EUT supports Radios application	WCDMA/HSPA/DC-HSDPA/ HSPA+ (16QAM uplink is not supported)/LTE 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 GNSS/NFC
IMEI Code	Conducted: 358114100000436 Conduction: 358114100000352/358114100000360 Radiation: 358114100000337/358114100000345
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 : 14.28 dBm / 0.0268 W 802.11n HT20 : 14.39 dBm / 0.0275 W 802.11n HT40 : 14.26 dBm / 0.0267 W 802.11ac VHT20 : 14.33 dBm / 0.0271 W 802.11ac VHT40 : 14.21 dBm / 0.0264 W 802.11ac VHT80 : 14.31 dBm / 0.0270 W <5260 MHz ~ 5320 MHz> 802.11a : 14.17 dBm / 0.0261 W 802.11n HT20 : 14.34 dBm / 0.0272 W 802.11n HT40 : 14.21 dBm / 0.0264 W 802.11ac VHT20 : 14.26 dBm / 0.0267 W 802.11ac VHT40 : 14.14 dBm / 0.0259 W 802.11ac VHT80 : 14.22 dBm / 0.0264 W <5500 MHz ~ 5720 MHz > 802.11a : 14.00 dBm / 0.0251 W 802.11n HT20 : 14.25 dBm / 0.0266 W 802.11n HT40 : 14.43 dBm / 0.0277 W 802.11ac VHT20 : 14.19 dBm / 0.0262 W 802.11ac VHT40 : 14.37 dBm / 0.0274 W 802.11ac VHT80 : 14.03 dBm / 0.0253 W
99% Occupied Bandwidth	<5180 MHz ~ 5240 MHz> 802.11a : 18.98 MHz 802.11n HT20 : 19.48 MHz 802.11n HT40 : 36.96 MHz 802.11ac VHT80 : 74.81 MHz <5260 MHz ~ 5320 MHz> 802.11a : 18.93 MHz 802.11n HT20 : 19.53 MHz 802.11n HT40 : 36.86 MHz 802.11ac VHT80 : 74.69 MHz <5500 MHz ~ 5720 MHz > 802.11a : 18.93 MHz 802.11n HT20 : 19.53 MHz 802.11n HT40 : 37.06 MHz 802.11ac VHT80 : 74.81 MHz
Antenna Type / Gain	<5180 MHz ~ 5240 MHz > Fixed Interna Antenna with gain 1.50 dBi <5260 MHz ~ 5320 MHz > Fixed Interna Antenna with gain 1.50 dBi <5500 MHz ~ 5720 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.
	03CH02-SZ	CN1256	421272

1.7 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH02-SZ	AUDIX	E3	6.2009-8-24a
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)
5180-5240 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)
526-5320 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)
5500-5720 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 performed with Adapter, Earphone and USB Cable.	



Ch. #		Band I : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5720MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle		-	-	144

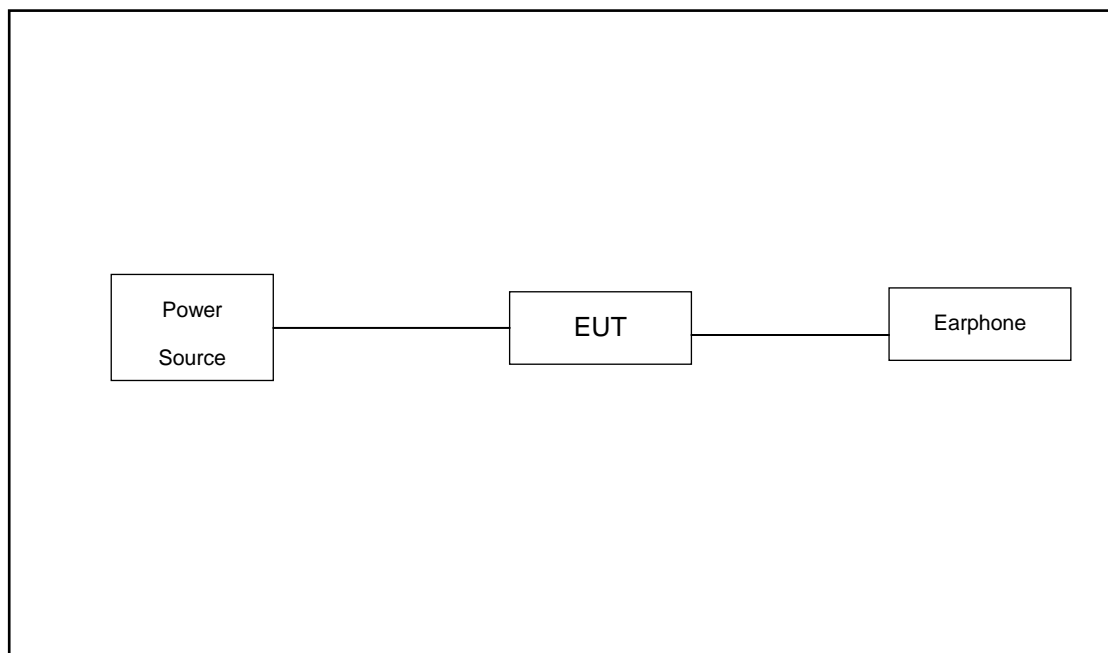
Ch. #		Band I : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5720MHz
		802.11n HT20	802.11n HT20	802.11n HT20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle		-	-	144

Ch. #		Band I : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5720MHz
		802.11n HT40	802.11n HT40	802.11n HT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134
Straddle		-	-	142

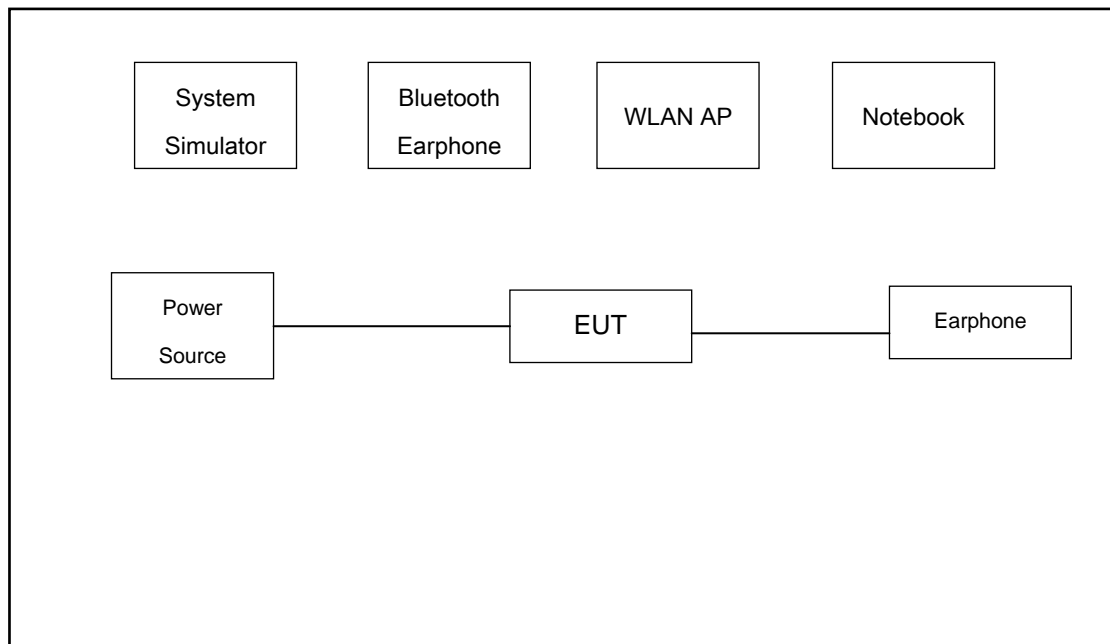
Ch. #		Band I : 5180-5240 MHz	Band II : 5260-5320 MHz	Band III : 5500-5720MHz
		802.11ac VHT80	802.11ac VHT80	802.11ac VHT80
L	Low	-	-	106
M	Middle	42	58	-
H	High	-	-	122
Straddle		-	-	138

2.3 Connection Diagram of Test System

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	N/A	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.

$$\begin{aligned}
 \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\
 &= 6.6 + 10 = 16.6 \text{ (dB)}
 \end{aligned}$$

3 Test Result

3.1 26dB & 99% Occupied Bandwidth Measurement

3.1.1 Description of 26dB & 99% Occupied Bandwidth

This section is for reporting purpose only.

There is no restriction limits for bandwidth.

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

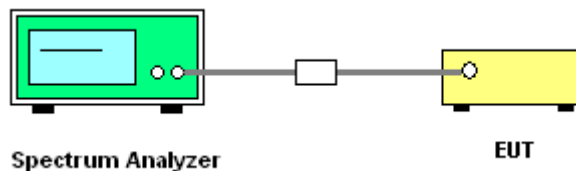
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

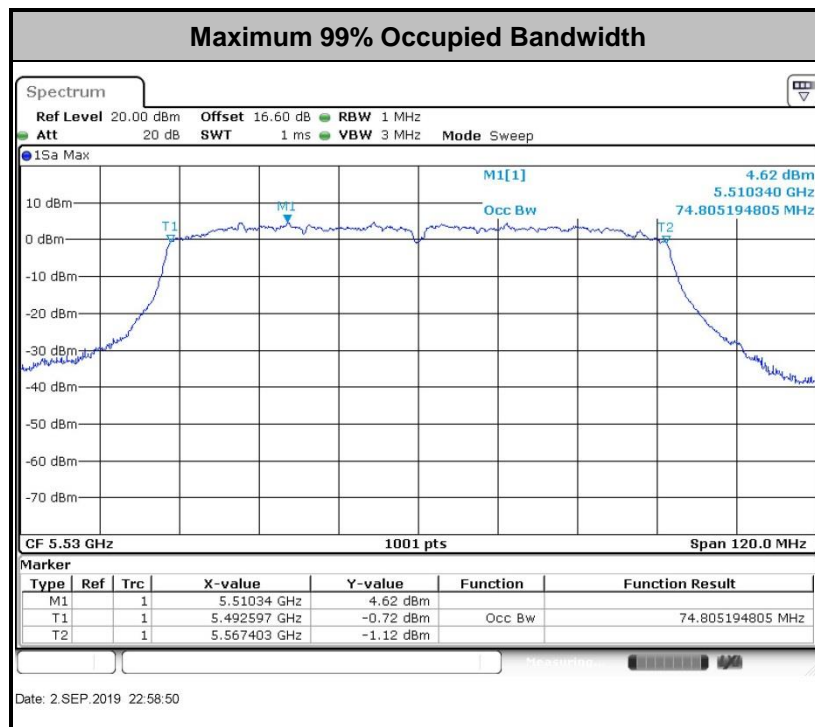
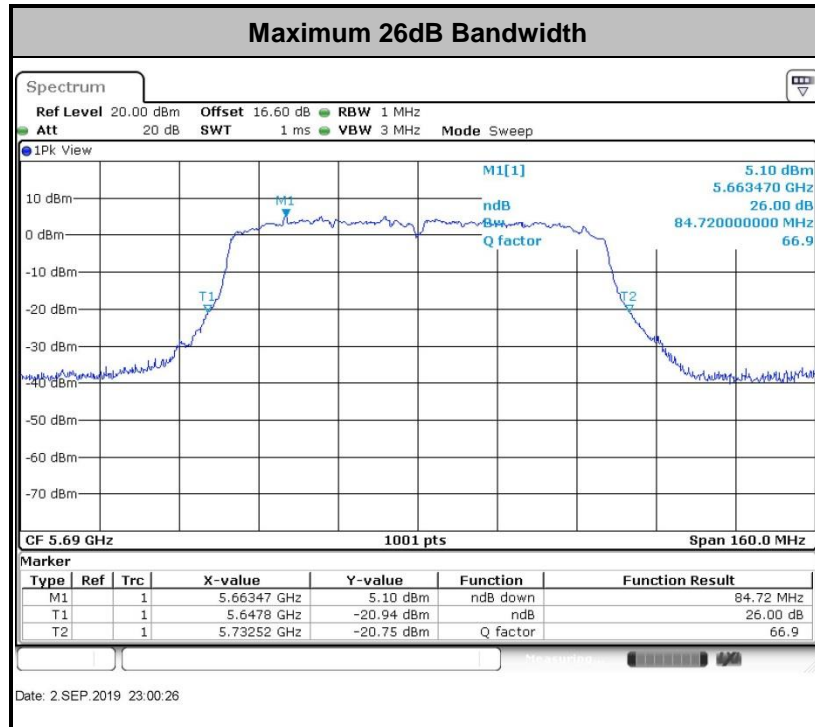
3.1.4 Test Setup





3.1.5 Test Result of 26dB & 99% Occupied Bandwidth

Please refer to Appendix A.



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



3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

<FCC 14-30 CFR 15.407>

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

For the 5.25–5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm $10 \log B$, where B is the 26 dB emission bandwidth in megahertz.

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

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

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

3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

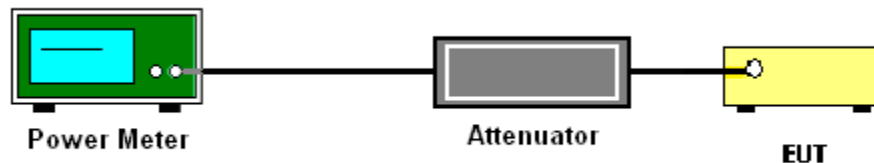
The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

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

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit continuously with a consistent duty cycle at its maximum power control level.
3. Measure the average power of the transmitter, and the average power is corrected with duty factor, $10 \log(1/x)$, where x is the duty cycle.

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

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.



3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

<FCC 14-30 CFR 15.407>

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

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

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

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

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

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

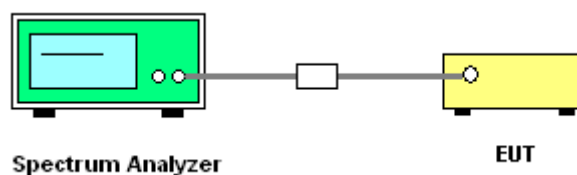
Section F) Maximum power spectral density.

Method SA-2

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

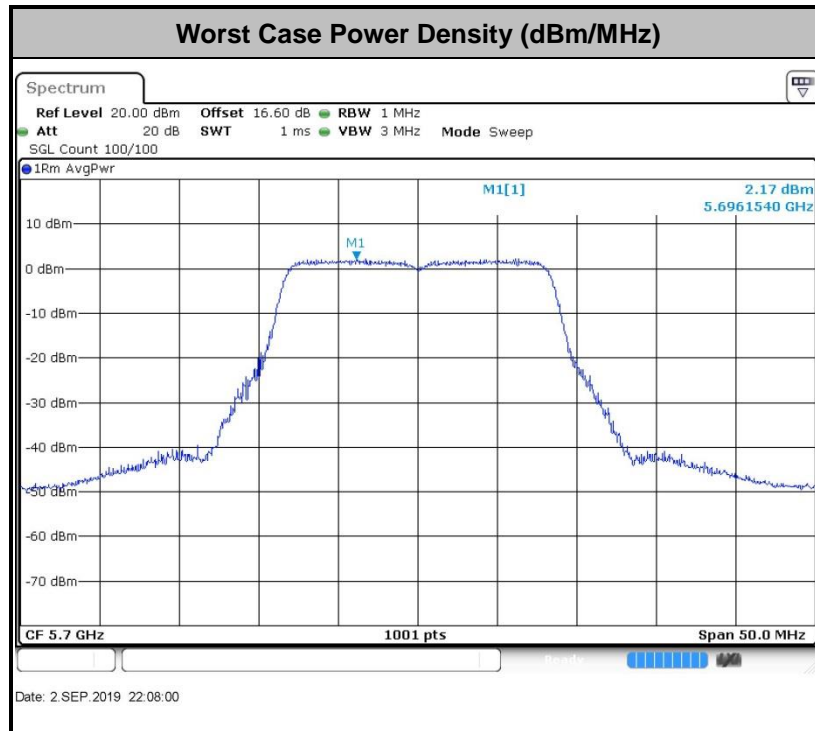
- Measure the duty cycle.
 - Set span to encompass the entire emission bandwidth (EBW) of the signal.
 - Set RBW = 1 MHz.
 - Set VBW \geq 3 MHz.
 - Number of points in sweep \geq 2 Span / RBW.
 - Sweep time = auto.
 - Detector = RMS
 - Trace average at least 100 traces in power averaging mode.
 - Add $10 \log(1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add $10 \log(1/0.25) = 6$ dB if the duty cycle is 25 percent.
-
1. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
 2. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.



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

3.4 Unwanted Emissions Measurement

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

3.4.1 Limit of Unwanted Emissions

- (1) For transmitters operating in the 5150-5250 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27dBm/MHz.

For transmitters operating in the 5250-5350 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5250-5350 MHz band that generate emissions in the 5150-5250 MHz band must meet all applicable technical requirements for operation in the 5150-5250 MHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5150-5250 MHz band.

For transmitters operating in the 5470-5600 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.

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

where

EIRP is the equivalent isotropically radiated power, in dBm

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

d_{Meas} is the measurement distance, in m

3.4.2 Measuring Instruments

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

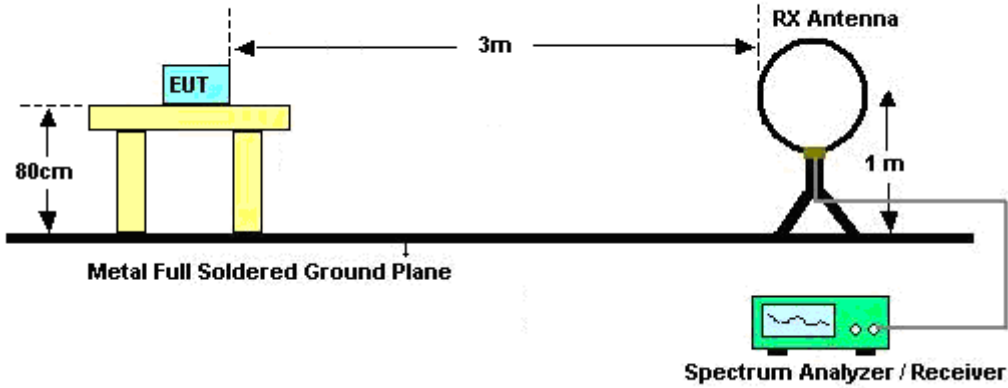
3.4.3 Test Procedures

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

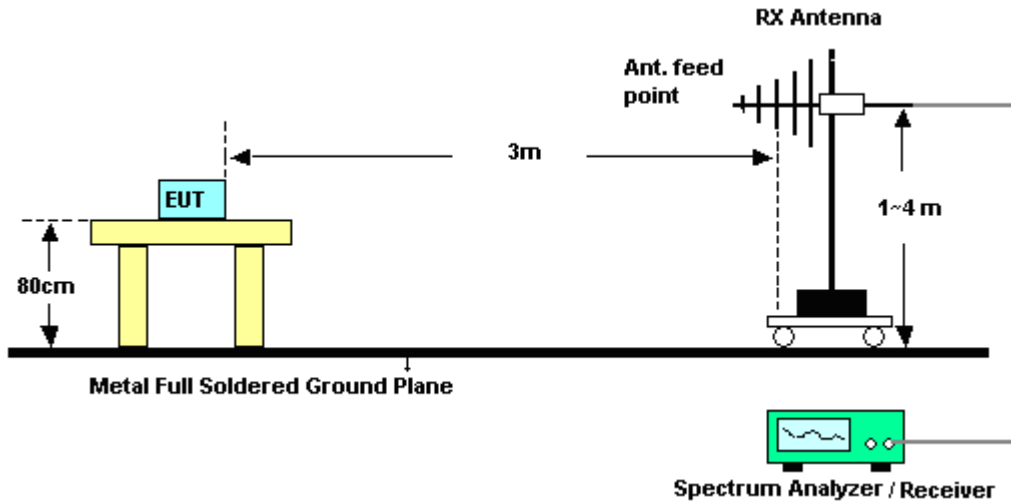


3.4.4 Test Setup

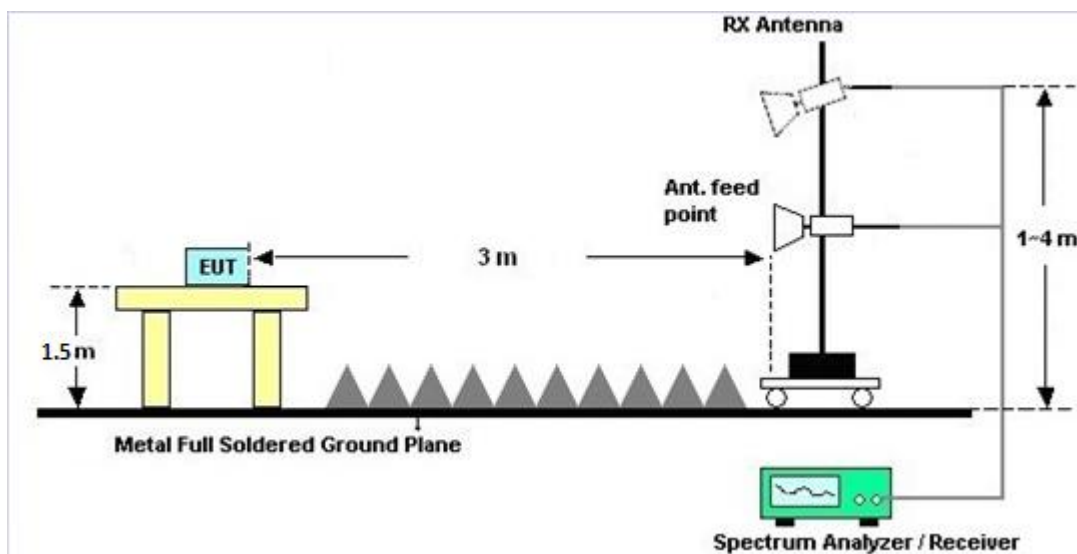
For radiated emissions below 30MHz



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.

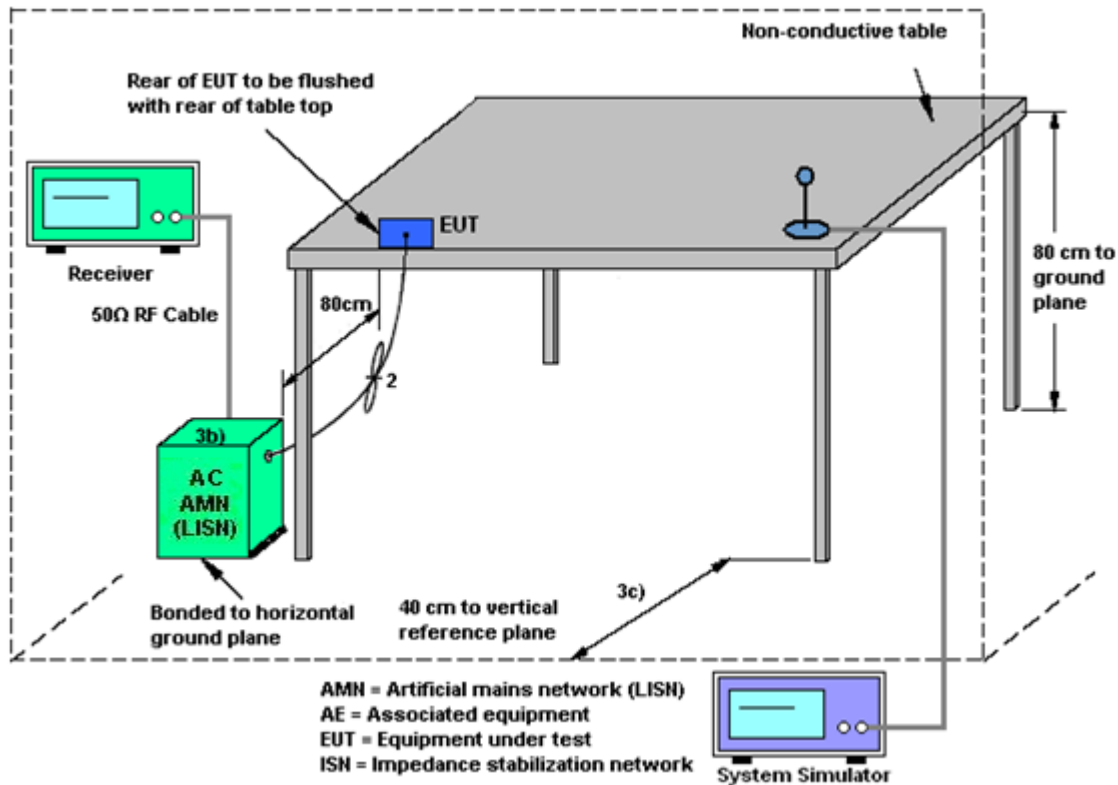
3.5.2 Measuring Instruments

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	Sep. 02, 2019	Apr. 17, 2020	Conducted (TH01-SZ)
Pulse Power Sensor	Anritsu	MA2411B	1207253	30MHz~40GHz	Dec. 22, 2018	Sep. 02, 2019	Dec. 21, 2019	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	50MHz Bandwidth	Dec. 22, 2018	Sep. 02, 2019	Dec. 21, 2019	Conducted (TH01-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Apr. 19, 2019	Dec. 31, 2019	Apr. 18, 2020	Radiation (03CH02-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	May 29, 2019	Dec. 31, 2019	May 28, 2020	Radiation (03CH02-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz~2GHz	Jul. 19, 2019	Dec. 31, 2019	Jul. 18, 2020	Radiation (03CH02-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1285	1GHz~18GHz	Jan. 07, 2019	Dec. 31, 2019	Jan. 06, 2020	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 22, 2019	Dec. 31, 2019	Jul. 21, 2020	Radiation (03CH02-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18GHz~40GHz	Apr. 18, 2019	Dec. 31, 2019	Apr. 17, 2020	Radiation (03CH02-SZ)
LF Amplifier	Burgeon	BPA-530	102211	0.01~3000Mhz	Oct. 18, 2019	Dec. 31, 2019	Oct. 17, 2020	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1943528	1GHz~18GHz	Oct. 18, 2019	Dec. 31, 2019	Oct. 17, 2020	Radiation (03CH02-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270105	0.5GHz~26.5GHz	Oct. 18, 2019	Dec. 31, 2019	Oct. 17, 2020	Radiation (03CH02-SZ)
AC Power Source	Chroma	61601	616010002470	N/A	NCR	Dec. 31, 2019	NCR	Radiation (03CH02-SZ)
Turn Table	Chaintek	T-200	N/A	0~360 degree	NCR	Dec. 31, 2019	NCR	Radiation (03CH02-SZ)
Antenna Mast	Chaintek	MBS-400	N/A	1 m~4 m	NCR	Dec. 31, 2019	NCR	Radiation (03CH02-SZ)
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Dec. 23, 2018	Aug. 30, 2019	Dec. 22, 2019	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103912	9kHz~30MHz	Oct. 18, 2018	Aug. 30, 2019	Oct. 17, 2019	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Dec. 23, 2018	Aug. 30, 2019	Dec. 22, 2019	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Jul. 23, 2019	Aug. 30, 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
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.0dB
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.4dB
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Appendix A. Conducted Test Results

Report Number : FR962408E

Test Engineer:	Andy Xu	Temperature:	21~25	°C
Test Date:	2019/9/2	Relative Humidity:	51~54	%

TEST RESULTS DATA
26dB and 99% OBW

Band I										
Mod.	Data Rate	N _{Tx}	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	18.93	23.08	-	22.77		
11a	6Mbps	1	44	5220	18.73	23.68	-	22.73		
11a	6Mbps	1	48	5240	18.98	23.58	-	22.78		
HT20	MCS0	1	36	5180	19.38	23.63	-	22.87		
HT20	MCS0	1	44	5220	19.48	23.98	-	22.90		
HT20	MCS0	1	48	5240	19.48	23.73	-	22.90		
HT40	MCS0	1	38	5190	36.96	44.33	-	23.01		
HT40	MCS0	1	46	5230	36.96	44.51	-	23.01		
VHT80	MCS0	1	42	5210	74.81	83.60	-	23.01		

TEST RESULTS DATA
Average Power Table

FCC Band I										
Mod.	Data Rate	N _{Tx}	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)		Pass/Fail
11a	6Mbps	1	36	5180	0.60	14.28	24.00	1.50		Pass
11a	6Mbps	1	44	5220	0.60	14.09	24.00	1.50		Pass
11a	6Mbps	1	48	5240	0.60	14.21	24.00	1.50		Pass
HT20	MCS0	1	36	5180	0.81	14.39	24.00	1.50		Pass
HT20	MCS0	1	44	5220	0.81	14.33	24.00	1.50		Pass
HT20	MCS0	1	48	5240	0.81	14.34	24.00	1.50		Pass
HT40	MCS0	1	38	5190	1.19	14.24	24.00	1.50		Pass
HT40	MCS0	1	46	5230	1.19	14.26	24.00	1.50		Pass
VHT20	MCS0	1	36	5180	0.81	14.33	24.00	1.50		Pass
VHT20	MCS0	1	44	5220	0.81	14.26	24.00	1.50		Pass
VHT20	MCS0	1	48	5240	0.81	14.28	24.00	1.50		Pass
VHT40	MCS0	1	38	5190	1.48	14.18	24.00	1.50		Pass
VHT40	MCS0	1	46	5230	1.48	14.21	24.00	1.50		Pass
VHT80	MCS0	1	42	5210	2.57	14.31	24.00	1.50		Pass

TEST RESULTS DATA
Power Spectral Density

FCC Band I										
Mod.	Data Rate	N _{TX}	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	0.60	2.64	11.00	1.50		Pass
11a	6Mbps	1	44	5220	0.60	2.74	11.00	1.50		Pass
11a	6Mbps	1	48	5240	0.60	2.37	11.00	1.50		Pass
HT20	MCS0	1	36	5180	0.81	2.59	11.00	1.50		Pass
HT20	MCS0	1	44	5220	0.81	2.66	11.00	1.50		Pass
HT20	MCS0	1	48	5240	0.81	2.44	11.00	1.50		Pass
HT40	MCS0	1	38	5190	1.19	-0.37	11.00	1.50		Pass
HT40	MCS0	1	46	5230	1.19	-0.54	11.00	1.50		Pass
VHT80	MCS0	1	42	5210	2.57	-3.25	11.00	1.50		Pass

TEST RESULTS DATA
26dB and 99% OBW

Band II										
Mod.	Data Rate	N _{Tx}	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	18.78	23.83	23.74	29.74	23.98	
11a	6M bps	1	60	5300	18.88	23.38	23.76	29.76	23.98	
11a	6M bps	1	64	5320	18.93	23.48	23.77	29.77	23.98	
HT20	MCS 0	1	52	5260	19.43	23.88	23.88	29.88	23.98	
HT20	MCS 0	1	60	5300	19.53	24.08	23.91	29.91	23.98	
HT20	MCS 0	1	64	5320	19.43	23.73	23.88	29.88	23.98	
HT40	MCS 0	1	54	5270	36.86	44.96	23.98	30.00	23.98	
HT40	MCS 0	1	62	5310	36.76	43.97	23.98	30.00	23.98	
VHT80	MCS 0	1	58	5290	74.69	84.40	23.98	30.00	23.98	

TEST RESULTS DATA
Average Power Table

FCC Band II										
Mod.	Data Rate	N _{TX}	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	0.60	14.08	23.98	1.50	26.99	Pass
11a	6M bps	1	60	5300	0.60	14.10	23.98	1.50	26.99	Pass
11a	6M bps	1	64	5320	0.60	14.17	23.98	1.50	26.99	Pass
HT20	MCS 0	1	52	5260	0.81	14.28	23.98	1.50	26.99	Pass
HT20	MCS 0	1	60	5300	0.81	14.17	23.98	1.50	26.99	Pass
HT20	MCS 0	1	64	5320	0.81	14.34	23.98	1.50	26.99	Pass
HT40	MCS 0	1	54	5270	1.19	14.21	23.98	1.50	26.99	Pass
HT40	MCS 0	1	62	5310	1.19	14.17	23.98	1.50	26.99	Pass
VHT20	MCS 0	1	52	5260	0.81	14.20	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	14.26	23.98	1.50	26.99	Pass
VHT40	MCS 0	1	54	5270	1.48	14.14	23.98	1.50	26.99	Pass
VHT40	MCS 0	1	62	5310	1.48	14.09	23.98	1.50	26.99	Pass
VHT80	MCS 0	1	58	5290	2.57	14.22	23.98	1.50	26.99	Pass

TEST RESULTS DATA
Power Spectral Density

Band II										
Mod.	Data Rate	N _{TX}	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	0.60	2.28	11.00	1.50		Pass
11a	6M bps	1	60	5300	0.60	2.41	11.00	1.50		Pass
11a	6M bps	1	64	5320	0.60	2.55	11.00	1.50		Pass
HT20	MCS 0	1	52	5260	0.81	2.46	11.00	1.50		Pass
HT20	MCS 0	1	60	5300	0.81	2.25	11.00	1.50		Pass
HT20	MCS 0	1	64	5320	0.81	2.08	11.00	1.50		Pass
HT40	MCS 0	1	54	5270	1.19	-0.49	11.00	1.50		Pass
HT40	MCS 0	1	62	5310	1.19	-0.66	11.00	1.50		Pass
VHT80	MCS 0	1	58	5290	2.57	-3.00	11.00	1.50		Pass

TEST RESULTS DATA
26dB and 99% OBW

Band III										
Mod.	Data Rate	N _{TX}	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	18.83	23.43	23.75	29.75	23.98	
11a	6M bps	1	116	5580	18.93	23.28	23.77	29.77	23.98	
11a	6M bps	1	140	5700	18.73	23.63	23.73	29.73	23.98	
11a	6Mbps	1	144	5720	18.93	23.43	23.77	29.77	23.98	
HT20	MCS 0	1	100	5500	19.53	23.93	23.91	29.91	23.98	
HT20	MCS 0	1	116	5580	19.48	23.88	23.90	29.90	23.98	
HT20	MCS 0	1	140	5700	19.53	24.03	23.91	29.91	23.98	
HT20	MCS0	1	144	5720	19.53	23.83	23.91	29.91	23.98	
HT40	MCS 0	1	102	5510	36.96	44.51	23.98	30.00	23.98	
HT40	MCS 0	1	110	5550	37.06	44.78	23.98	30.00	23.98	
HT40	MCS 0	1	134	5670	36.86	44.96	23.98	30.00	23.98	
HT40	MCS0	1	142	5710	36.96	44.60	23.98	30.00	23.98	
VHT80	MCS 0	1	106	5530	74.81	84.72	23.98	30.00	23.98	
VHT80	MCS 0	1	122	5610	74.69	84.56	23.98	30.00	23.98	
VHT80	MCS0	1	138	5690	74.69	84.72	23.98	30.00	23.98	

TEST RESULTS DATA
Average Power Table

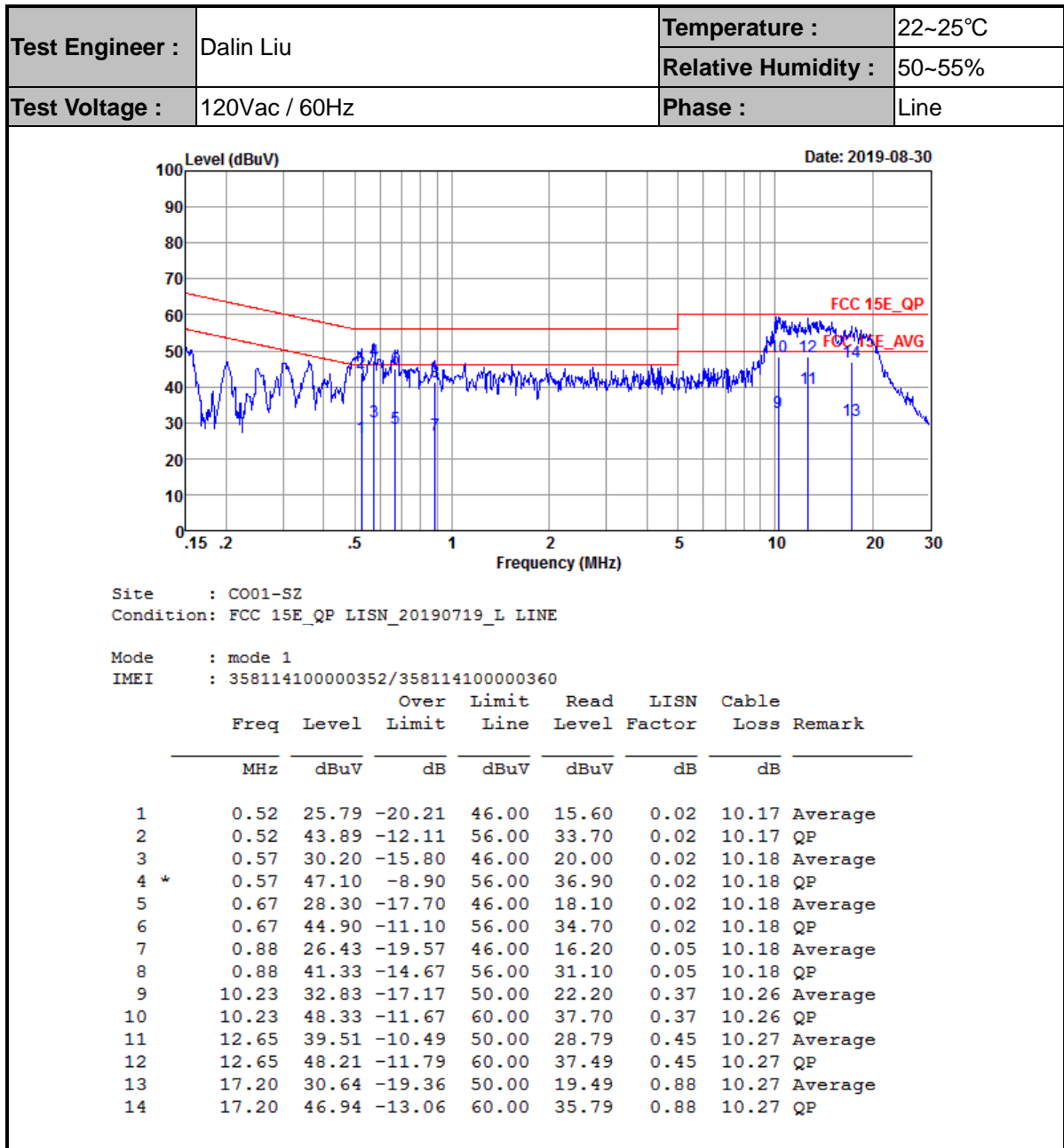
FCC Band III										
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6M bps	1	100	5500	0.60	13.67	23.98	1.50	26.99	Pass
11a	6M bps	1	116	5580	0.60	13.93	23.98	1.50	26.99	Pass
11a	6M bps	1	140	5700	0.60	14.00	23.98	1.50	26.99	Pass
11a	6M bps	1	144	5720	0.60	13.95	23.98	1.50	26.99	Pass
HT20	MCS 0	1	100	5500	0.81	13.86	23.98	1.50	26.99	Pass
HT20	MCS 0	1	116	5580	0.81	14.16	23.98	1.50	26.99	Pass
HT20	MCS 0	1	140	5700	0.81	14.25	23.98	1.50	26.99	Pass
HT20	MCS 0	1	144	5720	0.81	14.19	23.98	1.50	26.99	Pass
HT40	MCS 0	1	102	5510	1.19	13.84	23.98	1.50	26.99	Pass
HT40	MCS 0	1	110	5550	1.19	13.78	23.98	1.50	26.99	Pass
HT40	MCS 0	1	134	5670	1.19	14.43	23.98	1.50	26.99	Pass
HT40	MCS 0	1	142	5710	1.19	14.29	23.98	1.50	26.99	Pass
VHT20	MCS 0	1	100	5500	0.81	13.79	23.98	1.50	26.99	Pass
VHT20	MCS 0	1	116	5580	0.81	14.08	23.98	1.50	26.99	Pass
VHT20	MCS 0	1	140	5700	0.81	14.19	23.98	1.50	26.99	Pass
VHT20	MCS 0	1	144	5720	0.81	14.13	23.98	1.50	26.99	Pass
VHT40	MCS 0	1	102	5510	1.48	13.78	23.98	1.50	26.99	Pass
VHT40	MCS 0	1	110	5550	1.48	13.71	23.98	1.50	26.99	Pass
VHT40	MCS 0	1	134	5670	1.48	14.37	23.98	1.50	26.99	Pass
VHT40	MCS 0	1	142	5710	1.48	14.21	23.98	1.50	26.99	Pass
VHT80	MCS 0	1	106	5530	2.57	13.94	23.98	1.50	26.99	Pass
VHT80	MCS 0	1	122	5610	2.57	13.99	23.98	1.50	26.99	Pass
VHT80	MCS 0	1	138	5690	2.57	14.03	23.98	1.50	26.99	Pass

TEST RESULTS DATA
Power Spectral Density

Band III										
Mod.	Data Rate	N _{TX}	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	0.60	2.67	11.00	1.50		Pass
11a	6M bps	1	116	5580	0.60	2.76	11.00	1.50		Pass
11a	6M bps	1	140	5700	0.60	2.77	11.00	1.50		Pass
11a	6Mbps	1	144	5720	0.60	2.43	11.00	1.50		Pass
HT20	MCS 0	1	100	5500	0.81	2.31	11.00	1.50		Pass
HT20	MCS 0	1	116	5580	0.81	2.63	11.00	1.50		Pass
HT20	MCS 0	1	140	5700	0.81	2.72	11.00	1.50		Pass
HT20	MCS0	1	144	5720	0.81	2.70	11.00	1.50		Pass
HT40	MCS 0	1	102	5510	1.19	-0.36	11.00	1.50		Pass
HT40	MCS 0	1	110	5550	1.19	-0.79	11.00	1.50		Pass
HT40	MCS 0	1	134	5670	1.19	-0.43	11.00	1.50		Pass
HT40	MCS0	1	142	5710	1.19	-0.14	11.00	1.50		Pass
VHT80	MCS 0	1	106	5530	2.57	-3.41	11.00	1.50		Pass
VHT80	MCS 0	1	122	5610	2.57	-3.16	11.00	1.50		Pass
VHT80	MCS0	1	138	5690	2.57	-3.19	11.00	1.50		Pass

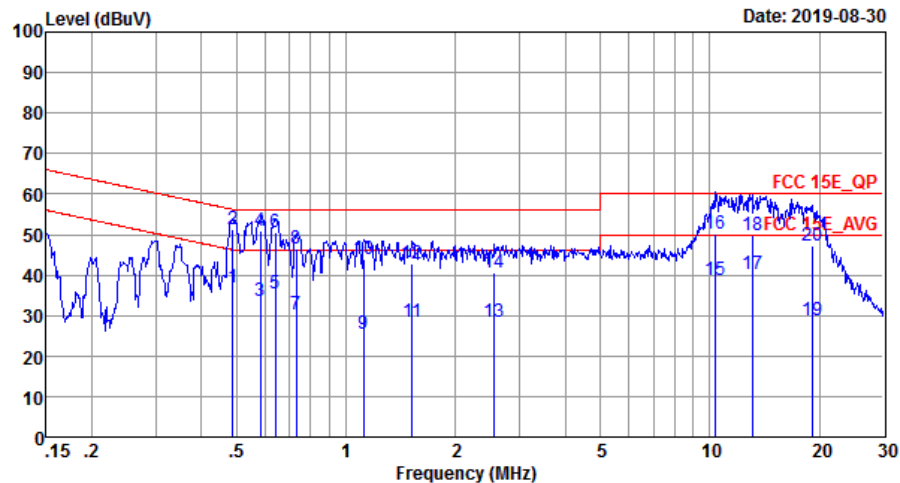


Appendix B. AC Conducted Emission Test Results





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



Site : CO01-SZ
Condition: FCC 15E_QP LISN_20190719_N NEUTRAL

Mode : mode 1
IMEI : 358114100000352/358114100000360

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.49	36.89	-9.30	46.19	26.70	0.02	10.17	Average
2 *	0.49	51.29	-4.90	56.19	41.10	0.02	10.17	QP
3	0.58	33.50	-12.50	46.00	23.30	0.02	10.18	Average
4	0.58	50.80	-5.20	56.00	40.60	0.02	10.18	QP
5	0.64	35.50	-10.50	46.00	25.30	0.02	10.18	Average
6	0.64	50.40	-5.60	56.00	40.20	0.02	10.18	QP
7	0.73	30.20	-15.80	46.00	20.00	0.02	10.18	Average
8	0.73	46.60	-9.40	56.00	36.40	0.02	10.18	QP
9	1.12	25.63	-20.37	46.00	15.40	0.05	10.18	Average
10	1.12	43.73	-12.27	56.00	33.50	0.05	10.18	QP
11	1.52	28.24	-17.76	46.00	18.00	0.05	10.19	Average
12	1.52	42.84	-13.16	56.00	32.60	0.05	10.19	QP
13	2.55	28.53	-17.47	46.00	18.30	0.04	10.19	Average
14	2.55	40.73	-15.27	56.00	30.50	0.04	10.19	QP
15	10.34	38.73	-11.27	50.00	28.30	0.17	10.26	Average
16	10.34	50.13	-9.87	60.00	39.70	0.17	10.26	QP
17	13.06	40.14	-9.86	50.00	29.60	0.27	10.27	Average
18	13.06	49.84	-10.16	60.00	39.30	0.27	10.27	QP
19	19.22	28.81	-21.19	50.00	18.01	0.54	10.26	Average
20	19.22	47.31	-12.69	60.00	36.51	0.54	10.26	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		5026	46.92	-27.08	74	39.05	31.17	9.89	33.19	245	123	P	H
		5126.88	38.92	-15.08	54	30.87	31.24	9.98	33.17	245	123	A	H
	*	5180	95.17	-	-	87.02	31.28	10.03	33.16	245	123	P	H
		5180	87.8	-	-	79.65	31.28	10.03	33.16	245	123	A	H
		5127.66	48.41	-25.59	74	40.36	31.24	9.98	33.17	141	232	P	V
		5127.4	41.78	-12.22	54	33.73	31.24	9.98	33.17	141	232	A	V
	*	5180	102.2	-	-	94.05	31.28	10.03	33.16	141	232	P	V
		5180	95.26	-	-	87.11	31.28	10.03	33.16	141	232	A	V
802.11a CH 44 5220MHz		5027.82	47.14	-26.86	74	39.27	31.17	9.89	33.19	245	123	P	H
		5124.02	38.04	-15.96	54	29.99	31.24	9.98	33.17	245	123	A	H
	*	5220	95.14	-	-	86.93	31.3	10.07	33.16	245	123	P	H
		5220	87.62	-	-	79.41	31.3	10.07	33.16	245	123	A	H
		5444.64	45.18	-28.82	74	36.55	31.46	10.28	33.11	245	123	P	H
		5448.24	36.93	-17.07	54	28.29	31.47	10.28	33.11	245	123	A	H
		5079.3	48.04	-25.96	74	40.07	31.21	9.94	33.18	141	225	P	V
		5117.26	38.88	-15.12	54	30.85	31.23	9.98	33.18	141	225	A	V
	*	5220	101.39	-	-	93.18	31.3	10.07	33.16	141	225	P	V
		5220	94.99	-	-	86.78	31.3	10.07	33.16	141	225	A	V
		5372.4	45.62	-28.38	74	37.13	31.41	10.21	33.13	141	225	P	V
		5417.76	37.05	-16.95	54	28.48	31.44	10.25	33.12	141	225	A	V



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 48 5240MHz		5088.4	47.11	-26.89	74	39.12	31.21	9.96	33.18	245	123	P	H
		5044.98	38.03	-15.97	54	30.13	31.18	9.91	33.19	245	123	A	H
	*	5240	95.18	-	-	86.92	31.31	10.1	33.15	245	123	P	H
		5240	87.48	-	-	79.22	31.31	10.1	33.15	245	123	A	H
		5412.48	45.28	-28.72	74	36.73	31.44	10.23	33.12	245	123	P	H
		5451.36	36.8	-17.2	54	28.16	31.47	10.28	33.11	245	123	A	H
		5142.48	46.62	-27.38	74	38.53	31.25	10.01	33.17	141	225	P	V
		5149.24	38.61	-15.39	54	30.52	31.25	10.01	33.17	141	225	A	V
	*	5240	102.67	-	-	94.41	31.31	10.1	33.15	141	225	P	V
		5240	95.14	-	-	86.88	31.31	10.1	33.15	141	225	A	V
		5427.12	46.99	-27.01	74	38.41	31.44	10.25	33.11	141	225	P	V
		5427.12	37	-17	54	28.42	31.44	10.25	33.11	141	225	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	53.75	-14.45	68.2	59.56	39.84	13.34	58.99	152	260	P	H
		15540	55.64	-18.36	74	60.58	38.85	15.14	58.93	189	238	P	H
		15540	47.51	-6.49	54	52.45	38.85	15.14	58.93	189	238	A	H
	*	10360	54.7	-13.5	68.2	60.51	39.84	13.34	58.99	152	260	P	V
		15540	57.48	-16.52	74	62.42	38.85	15.14	58.93	189	238	P	V
		15540	49.16	-4.84	54	54.1	38.85	15.14	58.93	189	238	A	V
802.11a CH 44 5220MHz	*	10440	52.87	-15.33	68.2	58.51	39.93	13.35	58.92	150	230	P	H
		15660	55.06	-18.94	74	60.62	38.32	15.18	59.06	160	225	P	H
		15660	46.89	-7.11	54	52.45	38.32	15.18	59.06	160	225	A	H
	*	10440	53.42	-14.78	68.2	59.06	39.93	13.35	58.92	150	230	P	V
		15660	57.29	-16.71	74	62.85	38.32	15.18	59.06	160	225	P	V
		15660	49.83	-4.17	54	55.39	38.32	15.18	59.06	160	225	A	V
802.11a CH 48 5240MHz	*	10480	53.42	-14.78	68.2	58.94	39.99	13.35	58.86	150	289	P	H
		15720	53.36	-20.64	74	59.28	38.01	15.19	59.12	150	291	P	H
		15720	45.68	-8.32	54	51.6	38.01	15.19	59.12	150	291	A	H
	*	10480	53.08	-15.12	68.2	58.6	39.99	13.35	58.86	150	289	P	V
		15720	57.68	-16.32	74	63.6	38.01	15.19	59.12	150	291	P	V
		15720	49.85	-4.15	54	55.77	38.01	15.19	59.12	150	291	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 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 36 5180MHz		5037.44	46.4	-27.6	74	38.53	31.17	9.89	33.19	101	177	P	H
		5128.44	39.57	-14.43	54	31.52	31.24	9.98	33.17	101	177	A	H
	*	5180	95.76	-	-	87.61	31.28	10.03	33.16	101	177	P	H
		5180	88.86	-	-	80.71	31.28	10.03	33.16	101	177	A	H
		5128.96	48.11	-25.89	74	40.06	31.24	9.98	33.17	108	232	P	V
		5128.18	42.41	-11.59	54	34.36	31.24	9.98	33.17	108	232	A	V
	*	5180	101.29	-	-	93.14	31.28	10.03	33.16	108	232	P	V
		5180	94.73	-	-	86.58	31.28	10.03	33.16	108	232	A	V
802.11n HT20 CH 44 5220MHz		5026.52	45.86	-28.14	74	37.99	31.17	9.89	33.19	100	160	P	H
		5106.6	38.75	-15.25	54	30.74	31.23	9.96	33.18	100	160	A	H
	*	5220	94.46	-	-	86.25	31.3	10.07	33.16	100	160	P	H
		5220	88.77	-	-	80.56	31.3	10.07	33.16	100	160	A	H
		5444.64	44.92	-29.08	74	36.29	31.46	10.28	33.11	245	123	P	H
		5438.24	36.87	-17.13	54	28.24	31.46	10.28	33.11	245	123	A	H
		5065.26	46.81	-27.19	74	38.87	31.19	9.94	33.19	142	234	P	V
		5082.68	38.74	-15.26	54	30.77	31.21	9.94	33.18	142	234	A	V
	*	5220	101.37	-	-	93.16	31.3	10.07	33.16	142	234	P	V
		5220	95.27	-	-	87.06	31.3	10.07	33.16	142	234	A	V
		5372.4	45.71	-28.29	74	37.22	31.41	10.21	33.13	141	225	P	V
		5417.76	37.2	-16.8	54	28.63	31.44	10.25	33.12	141	225	A	V



WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 48 5240MHz		5145.86	46.19	-27.81	74	38.1	31.25	10.01	33.17	118	161	P	H
		5056.68	38.63	-15.37	54	30.72	31.19	9.91	33.19	118	161	A	H
	*	5240	95.02	-	-	86.76	31.31	10.1	33.15	118	161	P	H
		5240	88.31	-	-	80.05	31.31	10.1	33.15	118	161	A	H
		5421.24	44.83	-29.17	74	36.26	31.44	10.25	33.12	245	123	P	H
		5451.36	37.3	-16.7	54	28.66	31.47	10.28	33.11	245	123	A	H
		5144.56	46.67	-27.33	74	38.58	31.25	10.01	33.17	144	231	P	V
		5139.88	39.23	-14.77	54	31.14	31.25	10.01	33.17	144	231	A	V
	*	5240	101.53	-	-	93.27	31.31	10.1	33.15	144	231	P	V
		5240	94.77	-	-	86.51	31.31	10.1	33.15	144	231	A	V
		5421.72	46.79	-27.21	74	38.22	31.44	10.25	33.12	141	225	P	V
		5427.12	36.82	-17.18	54	28.24	31.44	10.25	33.11	141	225	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 HT20 CH 36 5180MHz	*	10360	53.87	-14.33	68.2	59.68	39.84	13.34	58.99	152	260	P	H
		15540	53.75	-20.25	74	58.69	38.85	15.14	58.93	189	238	P	H
		15540	44.74	-9.26	54	49.68	38.85	15.14	58.93	189	238	A	H
	*	10360	54.98	-13.22	68.2	60.79	39.84	13.34	58.99	152	260	P	V
		15540	52.75	-21.25	74	57.69	38.85	15.14	58.93	189	238	P	V
		15540	44.62	-9.38	54	49.56	38.85	15.14	58.93	189	238	A	V
802.11n HT20 CH 44 5220MHz	*	10440	53.27	-14.93	68.2	58.91	39.93	13.35	58.92	150	230	P	H
		15660	53.35	-20.65	74	58.91	38.32	15.18	59.06	160	225	P	H
		15660	44.89	-9.11	54	50.45	38.32	15.18	59.06	160	225	A	H
	*	10440	53.58	-14.62	68.2	59.22	39.93	13.35	58.92	150	230	P	V
		15660	53	-21	74	58.56	38.32	15.18	59.06	160	225	P	V
		15660	44.56	-9.44	54	50.12	38.32	15.18	59.06	160	225	A	V
802.11n HT20 CH 48 5240MHz	*	10480	53.57	-14.63	68.2	59.09	39.99	13.35	58.86	150	289	P	H
		15720	52.66	-21.34	74	58.58	38.01	15.19	59.12	150	291	P	H
		15720	44.34	-9.66	54	50.26	38.01	15.19	59.12	150	291	A	H
	*	10480	52.54	-15.66	68.2	58.06	39.99	13.35	58.86	150	289	P	V
		15720	53.55	-20.45	74	59.47	38.01	15.19	59.12	150	291	P	V
		15720	45.44	-8.56	54	51.36	38.01	15.19	59.12	150	291	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 (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		5141.96	46.64	-27.36	74	38.55	31.25	10.01	33.17	100	161	P	H
		5141.96	42.86	-11.14	54	34.77	31.25	10.01	33.17	100	161	A	H
	*	5190	93.85	-	-	85.68	31.28	10.05	33.16	100	161	P	H
		5190	85.97	-	-	77.8	31.28	10.05	33.16	100	161	A	H
		5432.28	45.38	-28.62	74	36.78	31.46	10.25	33.11	100	161	P	H
		5441.52	37.37	-16.63	54	28.74	31.46	10.28	33.11	100	161	A	H
		5150.02	49.19	-24.81	74	41.1	31.25	10.01	33.17	100	194	P	V
		5141.96	45.46	-8.54	54	37.37	31.25	10.01	33.17	100	194	A	V
	*	5190	99.27	-	-	91.1	31.28	10.05	33.16	100	194	P	V
		5190	90.85	-	-	82.68	31.28	10.05	33.16	100	194	A	V
		5459.44	45.2	-28.8	74	36.56	31.47	10.28	33.11	100	194	P	V
		5441.8	37.37	-16.63	54	28.74	31.46	10.28	33.11	100	194	A	V
802.11n HT40 CH 46 5230MHz		5119.86	46.52	-27.48	74	38.48	31.23	9.98	33.17	100	159	P	H
		5124.54	39	-15	54	30.95	31.24	9.98	33.17	100	159	A	H
	*	5230	94.47	-	-	86.24	31.31	10.07	33.15	100	159	P	H
		5230	87	-	-	78.77	31.31	10.07	33.15	100	159	A	H
		5447.68	45.08	-28.92	74	36.44	31.47	10.28	33.11	100	159	P	H
		5449.36	37.48	-16.52	54	28.84	31.47	10.28	33.11	100	159	A	H
		5117.78	47	-27	74	38.97	31.23	9.98	33.18	100	196	P	V
		5126.88	39.77	-14.23	54	31.72	31.24	9.98	33.17	100	196	A	V
	*	5230	99.99	-	-	91.76	31.31	10.07	33.15	100	196	P	V
		5230	92.1	-	-	83.87	31.31	10.07	33.15	100	196	A	V
		5397.56	45.05	-28.95	74	36.51	31.43	10.23	33.12	100	196	P	V
		5438.72	37.47	-16.53	54	28.84	31.46	10.28	33.11	100	196	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 HT40 CH 38 5190MHz	*	10380	53.38	-14.82	68.2	59.14	39.87	13.34	58.97	150	360	P	H
		15570	48.92	-25.08	74	54.04	38.7	15.15	58.97	150	360	P	H
	*	10380	53.82	-14.38	68.2	59.58	39.87	13.34	58.97	150	360	P	V
		15570	49.71	-24.29	74	54.83	38.7	15.15	58.97	150	360	P	V
802.11n HT40 CH 46 5230MHz	*	10460	53.03	-15.17	68.2	58.63	39.95	13.35	58.9	150	360	P	H
		15690	52.26	-21.74	74	57.99	38.17	15.19	59.09	150	225	P	H
		15690	44.26	-9.74	54	49.99	38.17	15.19	59.09	150	225	A	H
	*	10460	52.81	-15.39	68.2	58.41	39.95	13.35	58.9	150	360	P	V
		15690	52.26	-21.74	74	57.99	38.17	15.19	59.09	150	225	P	V
		15690	44.92	-9.08	54	50.65	38.17	15.19	59.09	150	225	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 (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		5093.08	46.67	-27.33	74	38.67	31.22	9.96	33.18	100	129	P	H
		5146.12	40.89	-13.11	54	32.8	31.25	10.01	33.17	100	129	A	H
	*	5210	86.49	-	-	78.3	31.3	10.05	33.16	100	129	P	H
		5210	79.49	-	-	71.3	31.3	10.05	33.16	100	129	A	H
		5394	44.74	-29.26	74	36.21	31.42	10.23	33.12	100	129	P	H
		5451.6	38.89	-15.11	54	30.25	31.47	10.28	33.11	100	129	A	H
		5147.68	50.82	-23.18	74	42.73	31.25	10.01	33.17	109	199	P	V
		5147.68	46.48	-7.52	54	38.39	31.25	10.01	33.17	109	199	A	V
	*	5210	95.4	-	-	87.21	31.3	10.05	33.16	109	199	P	V
		5210	86.96	-	-	78.77	31.3	10.05	33.16	109	199	A	V
		5391.6	45.37	-28.63	74	36.84	31.42	10.23	33.12	109	199	P	V
		5423.28	38.65	-15.35	54	30.08	31.44	10.25	33.12	109	199	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 VHT80 CH 42 5210MHz	*	10420	52.75	-15.45	68.2	58.42	39.91	13.35	58.93	150	360	P	H
		15630	52.83	-21.17	74	58.32	38.39	15.16	59.04	150	225	P	H
		15630	44.08	-9.92	54	49.57	38.39	15.16	59.04	150	225	A	H
	*	10420	53.55	-14.65	68.2	59.22	39.91	13.35	58.93	150	360	P	V
		15630	54.06	-19.94	74	59.55	38.39	15.16	59.04	150	225	P	V
		15630	44.39	-9.61	54	49.88	38.39	15.16	59.04	150	225	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 (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		5118.82	46.28	-27.72	74	38.24	31.23	9.98	33.17	245	123	P	H
		5017.68	38.26	-15.74	54	30.4	31.16	9.89	33.19	245	123	A	H
	*	5260	95.11	-	-	86.82	31.34	10.1	33.15	245	123	P	H
		5260	87.72	-	-	79.43	31.34	10.1	33.15	245	123	A	H
		5353.68	45.28	-28.72	74	36.82	31.4	10.19	33.13	245	123	P	H
		5448.96	36.87	-17.13	54	28.23	31.47	10.28	33.11	245	123	A	H
		5073.84	46.01	-27.99	74	38.04	31.21	9.94	33.18	141	225	P	V
		5060.32	38.07	-15.93	54	30.16	31.19	9.91	33.19	141	225	A	V
	*	5260	102.3	-	-	94.01	31.34	10.1	33.15	141	225	P	V
		5260	94.56	-	-	86.27	31.34	10.1	33.15	141	225	A	V
		5358.48	47.2	-26.8	74	38.74	31.4	10.19	33.13	141	225	P	V
		5351.52	37.61	-16.39	54	29.15	31.4	10.19	33.13	141	225	A	V
802.11a CH 60 5300MHz		5100.45	45.86	-28.14	74	37.86	31.22	9.96	33.18	245	123	P	H
		5037.1	38.19	-15.81	54	30.32	31.17	9.89	33.19	245	123	A	H
	*	5300	95.06	-	-	86.7	31.36	10.14	33.14	245	123	P	H
		5300	87.87	-	-	79.51	31.36	10.14	33.14	245	123	A	H
		5350.32	44.94	-29.06	74	36.48	31.4	10.19	33.13	245	123	P	H
		5352.48	37.85	-16.15	54	29.39	31.4	10.19	33.13	245	123	A	H
		5116.55	46.87	-27.13	74	38.84	31.23	9.98	33.18	141	225	P	V
		5052.15	38.13	-15.87	54	30.23	31.18	9.91	33.19	141	225	A	V
	*	5300	102.39	-	-	94.03	31.36	10.14	33.14	141	225	P	V
		5300	94.71	-	-	86.35	31.36	10.14	33.14	141	225	A	V
		5353.2	47	-27	74	38.54	31.4	10.19	33.13	141	225	P	V
		5352.24	41.79	-12.21	54	33.33	31.4	10.19	33.13	141	225	A	V



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 64 5320MHz	*	5320	94.56	-	-	86.17	31.37	10.16	33.14	245	123	P	H
		5320	86.95	-	-	78.56	31.37	10.16	33.14	245	123	A	H
		5448.64	45.26	-28.74	74	36.62	31.47	10.28	33.11	245	123	P	H
		5372.32	37.21	-16.79	54	28.72	31.41	10.21	33.13	245	123	A	H
	*	5320	101.36	-	-	92.97	31.37	10.16	33.14	141	225	P	V
		5320	93.85	-	-	85.46	31.37	10.16	33.14	141	225	A	V
		5372.32	47.37	-26.63	74	38.88	31.41	10.21	33.13	141	225	P	V
		5372.32	41.22	-12.78	54	32.73	31.41	10.21	33.13	141	225	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	53.17	-15.03	68.2	58.6	40.03	13.36	58.82	150	220	P	H
		15780	53.16	-20.84	74	59.34	37.79	15.21	59.18	159	345	P	H
		15780	45.38	-8.62	54	51.56	37.79	15.21	59.18	159	345	A	H
	*	10520	53.67	-14.53	68.2	59.1	40.03	13.36	58.82	150	220	P	V
		15780	57.62	-16.38	74	63.8	37.79	15.21	59.18	159	345	P	V
		15780	49.46	-4.54	54	55.64	37.79	15.21	59.18	159	345	A	V
802.11a CH 60 5300MHz	*	10600	53	-21	74	58.24	40.13	13.36	58.73	185	215	P	H
		10600	45.89	-8.11	54	51.13	40.13	13.36	58.73	185	215	A	H
		15900	51.36	-22.64	74	58.15	37.26	15.25	59.3	196	190	P	H
		15900	45.51	-8.49	54	52.3	37.26	15.25	59.3	196	190	A	H
	*	10600	57.46	-16.54	74	62.7	40.13	13.36	58.73	185	215	P	V
		10600	49.37	-4.63	54	54.61	40.13	13.36	58.73	185	215	A	V
		15900	55.4	-18.6	74	62.19	37.26	15.25	59.3	196	190	P	V
		15900	48.54	-5.46	54	55.33	37.26	15.25	59.3	196	190	A	V
802.11a CH 64 5320MHz	*	10640	52.35	-21.65	74	57.5	40.17	13.37	58.69	152	135	P	H
		10640	44.44	-9.56	54	49.59	40.17	13.37	58.69	152	135	A	H
		15960	51.19	-22.81	74	58.34	36.95	15.27	59.37	173	245	P	H
		15960	44.3	-9.7	54	51.45	36.95	15.27	59.37	173	245	A	H
	*	10640	56.98	-17.02	74	62.13	40.17	13.37	58.69	152	135	P	V
		10640	49.45	-4.55	54	54.6	40.17	13.37	58.69	152	135	A	V
		15960	55.94	-18.06	74	63.09	36.95	15.27	59.37	173	245	P	V
		15960	48.29	-5.71	54	55.44	36.95	15.27	59.37	173	245	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 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 52 5260MHz		5062.65	47.18	-26.82	74	39.24	31.19	9.94	33.19	100	158	P	H
		5056.35	38.67	-15.33	54	30.76	31.19	9.91	33.19	100	158	A	H
	*	5260	94.71	-	-	86.42	31.34	10.1	33.15	100	158	P	H
		5260	87.12	-	-	78.83	31.34	10.1	33.15	100	158	A	H
		5459.52	44.52	-29.48	74	35.88	31.47	10.28	33.11	100	158	P	H
		5448	37.61	-16.39	54	28.97	31.47	10.28	33.11	100	158	A	H
		5080.5	46.4	-27.6	74	38.43	31.21	9.94	33.18	130	242	P	V
		5080.15	39	-15	54	31.03	31.21	9.94	33.18	130	242	A	V
	*	5260	101.05	-	-	92.76	31.34	10.1	33.15	130	242	P	V
		5260	94.41	-	-	86.12	31.34	10.1	33.15	130	242	A	V
		5357.28	45.62	-28.38	74	37.16	31.4	10.19	33.13	130	242	P	V
		5351.28	37.67	-16.33	54	29.21	31.4	10.19	33.13	130	242	A	V
802.11n HT20 CH 60 5300MHz		5050.05	46.98	-27.02	74	39.08	31.18	9.91	33.19	100	158	P	H
		5058.8	38.85	-15.15	54	30.94	31.19	9.91	33.19	100	158	A	H
	*	5300	96.81	-	-	88.45	31.36	10.14	33.14	100	158	P	H
		5300	89.76	-	-	81.4	31.36	10.14	33.14	100	158	A	H
		5445.36	45.21	-28.79	74	36.58	31.46	10.28	33.11	100	158	P	H
		5351.76	38.54	-15.46	54	30.08	31.4	10.19	33.13	100	158	A	H
		5143.85	46.02	-27.98	74	37.93	31.25	10.01	33.17	100	194	P	V
		5055.65	38.99	-15.01	54	31.08	31.19	9.91	33.19	100	194	A	V
	*	5300	102	-	-	93.64	31.36	10.14	33.14	100	194	P	V
		5300	94.44	-	-	86.08	31.36	10.14	33.14	100	194	A	V
		5352.48	47.01	-26.99	74	38.55	31.4	10.19	33.13	100	194	P	V
		5351.52	42.66	-11.34	54	34.2	31.4	10.19	33.13	100	194	A	V



WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 64 5320MHz	*	5320	95.88	-	-	87.49	31.37	10.16	33.14	100	155	P	H
		5320	89.17	-	-	80.78	31.37	10.16	33.14	100	155	A	H
		5448.72	44.84	-29.16	74	36.2	31.47	10.28	33.11	100	155	P	H
		5371.44	38.72	-15.28	54	30.23	31.41	10.21	33.13	100	155	A	H
	*	5320	101.24	-	-	92.85	31.37	10.16	33.14	100	194	P	V
		5320	94.27	-	-	85.88	31.37	10.16	33.14	100	194	A	V
		5371.92	47.25	-26.75	74	38.76	31.41	10.21	33.13	100	194	P	V
		5371.92	42.22	-11.78	54	33.73	31.41	10.21	33.13	100	194	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 HT20 CH 52 5260MHz	*	10520	52.11	-16.09	68.2	57.54	40.03	13.36	58.82	150	220	P	H
		15780	52.43	-21.57	74	58.61	37.79	15.21	59.18	159	345	P	H
		15780	44.85	-9.15	54	51.03	37.79	15.21	59.18	159	345	A	H
	*	10520	52.92	-15.28	68.2	58.35	40.03	13.36	58.82	150	220	P	V
		15780	52.23	-21.77	74	58.41	37.79	15.21	59.18	159	345	P	V
		15780	45.05	-8.95	54	51.23	37.79	15.21	59.18	159	345	A	V
802.11n HT20 CH 60 5300MHz	*	10600	55.32	-18.68	74	60.56	40.13	13.36	58.73	185	215	P	H
		10600	49.06	-4.94	54	54.3	40.13	13.36	58.73	185	215	A	H
		15900	53.2	-20.8	74	59.99	37.26	15.25	59.3	196	190	P	H
		15900	44.56	-9.44	54	51.35	37.26	15.25	59.3	196	190	A	H
	*	10600	54.09	-19.91	74	59.33	40.13	13.36	58.73	185	215	P	V
		10600	49.12	-4.88	54	54.36	40.13	13.36	58.73	185	215	A	V
802.11n HT20 CH 64 5320MHz		15900	53.78	-20.22	74	60.57	37.26	15.25	59.3	196	190	P	V
	*	10640	54.85	-19.15	74	60	40.17	13.37	58.69	152	135	P	H
		10640	49.47	-4.53	54	54.62	40.17	13.37	58.69	152	135	A	H
		15960	51.48	-22.52	74	58.63	36.95	15.27	59.37	173	245	P	H
		15960	44.21	-9.79	54	51.36	36.95	15.27	59.37	173	245	A	H
	*	10640	55.3	-18.7	74	60.45	40.17	13.37	58.69	152	135	P	V
Remark		10640	49.54	-4.46	54	54.69	40.17	13.37	58.69	152	135	A	V
		15960	50.64	-23.36	74	57.79	36.95	15.27	59.37	173	245	P	V
	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		5016.8	46.52	-27.48	74	38.66	31.16	9.89	33.19	100	158	P	H
		5081.55	38.73	-15.27	54	30.76	31.21	9.94	33.18	100	158	A	H
	*	5270	93.78	-	-	85.47	31.34	10.12	33.15	100	158	P	H
		5270	86.37	-	-	78.06	31.34	10.12	33.15	100	158	A	H
		5372.16	45.16	-28.84	74	36.67	31.41	10.21	33.13	100	158	P	H
		5451.6	37.74	-16.26	54	29.1	31.47	10.28	33.11	100	158	A	H
		5052.5	46.56	-27.44	74	38.66	31.18	9.91	33.19	100	194	P	V
		5047.95	38.74	-15.26	54	30.84	31.18	9.91	33.19	100	194	A	V
	*	5270	99.96	-	-	91.65	31.34	10.12	33.15	100	194	P	V
		5270	91.57	-	-	83.26	31.34	10.12	33.15	100	194	A	V
		5358.96	46.15	-27.85	74	37.69	31.4	10.19	33.13	100	194	P	V
		5372.88	38.98	-15.02	54	30.49	31.41	10.21	33.13	100	194	A	V
802.11n HT40 CH 62 5310MHz		5130.55	47.47	-26.53	74	39.42	31.24	9.98	33.17	100	199	P	H
		5067.55	38.86	-15.14	54	30.91	31.19	9.94	33.18	100	199	A	H
	*	5310	93.55	-	-	85.18	31.37	10.14	33.14	100	199	P	H
		5310	86.15	-	-	77.78	31.37	10.14	33.14	100	199	A	H
		5454.96	45.68	-28.32	74	37.04	31.47	10.28	33.11	100	199	P	H
		5358	40.39	-13.61	54	31.93	31.4	10.19	33.13	100	199	A	H
		5112.7	47.09	-26.91	74	39.06	31.23	9.98	33.18	109	194	P	V
		5062.65	38.7	-15.3	54	30.76	31.19	9.94	33.19	109	194	A	V
	*	5310	98.85	-	-	90.48	31.37	10.14	33.14	109	194	P	V
		5310	92.03	-	-	83.66	31.37	10.14	33.14	109	194	A	V
		5352.96	47.68	-26.32	74	39.22	31.4	10.19	33.13	109	194	P	V
		5358	44.46	-9.54	54	36	31.4	10.19	33.13	109	194	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 HT40 CH 54 5270MHz	*	10540	53.77	-14.43	68.2	59.16	40.05	13.36	58.8	150	220	P	H
		15810	51.15	-22.85	74	57.51	37.63	15.22	59.21	168	345	P	H
		15810	43.21	-10.79	54	49.57	37.63	15.22	59.21	168	345	A	H
	*	10540	52.06	-16.14	68.2	57.45	40.05	13.36	58.8	150	220	P	V
		15810	51.65	-22.35	74	58.01	37.63	15.22	59.21	168	345	P	V
		15810	45.25	-8.75	54	51.61	37.63	15.22	59.21	168	345	A	V
802.11n HT40 CH 62 5310MHz	*	10620	54.81	-19.19	74	60	40.15	13.37	58.71	150	220	P	H
		10620	48.49	-5.51	54	53.68	40.15	13.37	58.71	150	220	A	H
		15930	50.01	-23.99	74	56.98	37.1	15.26	59.33	160	100	P	H
	*	10620	55.81	-18.19	74	61	40.15	13.37	58.71	150	220	P	V
		10620	50.07	-3.93	54	55.26	40.15	13.37	58.71	150	220	A	V
		15930	50.55	-23.45	74	57.52	37.1	15.26	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		5009.45	47.53	-26.47	74	39.7	31.16	9.87	33.2	100	129	P	H
		5052.15	40.65	-13.35	54	32.75	31.18	9.91	33.19	100	129	A	H
	*	5290	85.78	-	-	77.43	31.35	10.14	33.14	100	129	P	H
		5290	79.05	-	-	70.7	31.35	10.14	33.14	100	129	A	H
		5426.16	46.09	-27.91	74	37.51	31.44	10.25	33.11	100	129	P	H
		5455.2	39.21	-14.79	54	30.57	31.47	10.28	33.11	100	129	A	H
		5088.2	46.44	-27.56	74	38.45	31.21	9.96	33.18	109	199	P	V
		5022.75	40.46	-13.54	54	32.59	31.17	9.89	33.19	109	199	A	V
	*	5290	95.72	-	-	87.37	31.35	10.14	33.14	109	199	P	V
		5290	86.79	-	-	78.44	31.35	10.14	33.14	109	199	A	V
		5357.04	46.82	-27.18	74	38.36	31.4	10.19	33.13	109	199	P	V
		5352.24	41.96	-12.04	54	33.5	31.4	10.19	33.13	109	199	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 VHT80 CH 58 5290MHz	*	10580	52.66	-15.54	68.2	57.94	40.11	13.36	58.75	185	215	P	H
		15870	51.29	-22.71	74	58.01	37.33	15.23	59.28	196	190	P	H
		15870	43.65	-10.35	54	50.37	37.33	15.23	59.28	196	190	A	H
	*	10580	53.28	-14.92	68.2	58.56	40.11	13.36	58.75	170	232	P	V
		15870	52.61	-21.39	74	59.33	37.33	15.23	59.28	190	130	P	V
		15870	44.5	-9.5	54	51.22	37.33	15.23	59.28	190	130	A	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		5356.88	44.4	-29.6	74	35.94	31.4	10.19	33.13	245	123	P	H
		5469.36	46.1	-22.1	68.2	37.43	31.48	10.3	33.11	245	123	P	H
		5447.76	37.82	-16.18	54	29.18	31.47	10.28	33.11	245	123	A	H
	*	5500	91.37	-	-	82.65	31.5	10.32	33.1	245	123	P	H
		5500	84.16	-	-	75.44	31.5	10.32	33.1	245	123	A	H
		5447.92	48.73	-25.27	74	40.09	31.47	10.28	33.11	141	225	P	V
		5465.2	45.2	-23	68.2	36.53	31.48	10.3	33.11	141	225	P	V
		5447.92	42.07	-11.93	54	33.43	31.47	10.28	33.11	141	225	A	V
	*	5500	101.72	-	-	93	31.5	10.32	33.1	141	225	P	V
		5500	94.26	-	-	85.54	31.5	10.32	33.1	141	225	A	V
802.11a CH 116 5580MHz		5441.2	46.4	-27.6	74	37.77	31.46	10.28	33.11	245	123	P	H
		5468.8	43.85	-24.35	68.2	35.18	31.48	10.3	33.11	245	123	P	H
		5458.96	36.9	-17.1	54	28.26	31.47	10.28	33.11	245	123	A	H
	*	5580	92.93	-	-	84.09	31.55	10.39	33.1	245	123	P	H
		5580	85.06	-	-	76.22	31.55	10.39	33.1	245	123	A	H
		5744.525	47.03	-21.17	68.2	37.75	31.83	10.55	33.1	245	123	P	H
		5399.68	45.78	-28.22	74	37.24	31.43	10.23	33.12	141	227	P	V
		5463.28	45.37	-22.83	68.2	36.7	31.48	10.3	33.11	141	227	P	V
		5453.92	36.96	-17.04	54	28.32	31.47	10.28	33.11	141	227	A	V
	*	5580	101.96	-	-	93.12	31.55	10.39	33.1	141	227	P	V
		5580	94.19	-	-	85.35	31.55	10.39	33.1	141	227	A	V
		5731.925	46.32	-21.88	68.2	37.11	31.79	10.52	33.1	141	227	P	V



WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 140 5700MHz	*	5700	93.25	-	-	84.13	31.72	10.5	33.1	245	123	P	H
		5700	85.62	-	-	76.5	31.72	10.5	33.1	245	123	A	H
		5737.32	47.23	-20.97	68.2	37.98	31.83	10.52	33.1	245	123	P	H
	*	5700	101.9	-	-	92.78	31.72	10.5	33.1	141	227	P	V
		5700	94.89	-	-	85.77	31.72	10.5	33.1	141	227	A	V
		5729.72	47.95	-20.25	68.2	38.74	31.79	10.52	33.1	141	227	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	54.43	-19.57	74	58.73	40.59	13.41	58.3	163	230	P	H
		11000	46.9	-7.1	54	51.2	40.59	13.41	58.3	163	230	A	H
	*	16500	52.49	-15.71	68.2	57.04	38.94	15.35	58.84	196	273	P	H
		11000	59.37	-14.63	74	63.67	40.59	13.41	58.3	155	212	P	V
		11000	50.87	-3.13	54	55.17	40.59	13.41	58.3	155	212	A	V
	*	16500	52.55	-15.65	68.2	57.1	38.94	15.35	58.84	178	296	P	V
802.11a CH 116 5580MHz		11160	56.74	-17.26	74	60.62	40.8	13.43	58.11	183	32	P	H
		11160	47.75	-6.25	54	51.63	40.8	13.43	58.11	183	32	A	H
	*	16740	51.36	-16.84	68.2	54.61	39.93	15.4	58.58	163	332	P	H
		11160	58.61	-15.39	74	62.49	40.8	13.43	58.11	170	200	P	V
		11160	50.77	-3.23	54	54.65	40.8	13.43	58.11	170	200	A	V
	*	16740	52.14	-16.06	68.2	55.39	39.93	15.4	58.58	156	350	P	V
802.11a CH 140 5700MHz		11400	55.93	-18.07	74	59.24	41.08	13.46	57.85	157	285	P	H
		11400	47.7	-6.3	54	51.01	41.08	13.46	57.85	157	285	A	H
	*	17100	54.53	-13.67	68.2	55.64	41.6	15.45	58.16	165	246	P	H
		11400	57.03	-16.97	74	60.34	41.08	13.46	57.85	122	291	P	V
		11400	50.13	-3.87	54	53.44	41.08	13.46	57.85	122	291	A	V
	*	17100	54.35	-13.85	68.2	55.46	41.6	15.45	58.16	153	102	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)
802.11n HT20 CH 100 5500MHz		5456.24	45.09	-28.91	74	36.45	31.47	10.28	33.11	100	130	P	H
		5467.92	44.68	-23.52	68.2	36.01	31.48	10.3	33.11	100	130	P	H
		5447.76	38.28	-15.72	54	29.64	31.47	10.28	33.11	100	130	A	H
	*	5500	92.89	-	-	84.17	31.5	10.32	33.1	100	130	P	H
		5500	86.89	-	-	78.17	31.5	10.32	33.1	100	130	A	H
		5447.92	47.02	-26.98	74	38.38	31.47	10.28	33.11	117	215	P	V
		5470	45.8	-22.4	68.2	37.13	31.48	10.3	33.11	117	215	P	V
		5448.08	42.99	-11.01	54	34.35	31.47	10.28	33.11	117	215	A	V
	*	5500	100.93	-	-	92.21	31.5	10.32	33.1	117	215	P	V
		5500	94.77	-	-	86.05	31.5	10.32	33.1	117	215	A	V
802.11n HT20 CH 116 5580MHz		5438.32	44.69	-29.31	74	36.06	31.46	10.28	33.11	100	127	P	H
		5462.8	44.38	-23.82	68.2	35.71	31.48	10.3	33.11	100	127	P	H
		5454.64	37.18	-16.82	54	28.54	31.47	10.28	33.11	100	127	A	H
	*	5580	93.61	-	-	84.77	31.55	10.39	33.1	100	127	P	H
		5580	86.35	-	-	77.51	31.55	10.39	33.1	100	127	A	H
		5764.055	47.48	-20.72	68.2	38.14	31.87	10.57	33.1	100	127	P	H
		5440.48	45.1	-28.9	74	36.47	31.46	10.28	33.11	100	213	P	V
		5464.96	45.43	-22.77	68.2	36.76	31.48	10.3	33.11	100	213	P	V
		5415.52	37.43	-16.57	54	28.86	31.44	10.25	33.12	100	213	A	V
	*	5580	100.95	-	-	92.11	31.55	10.39	33.1	100	213	P	V
		5580	94.32	-	-	85.48	31.55	10.39	33.1	100	213	A	V
		5754.92	45.78	-22.42	68.2	36.46	31.87	10.55	33.1	100	213	P	V



WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 140 5700MHz	*	5700	94.52	-	-	85.4	31.72	10.5	33.1	100	108	P	H
		5700	86.46	-	-	77.34	31.72	10.5	33.1	100	108	A	H
		5725	47.41	-20.79	68.2	38.2	31.79	10.52	33.1	100	108	P	H
	*	5700	100.93	-	-	91.81	31.72	10.5	33.1	100	217	P	V
		5700	93.34	-	-	84.22	31.72	10.5	33.1	100	217	A	V
		5725.64	49.59	-18.61	68.2	40.38	31.79	10.52	33.1	100	217	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 HT20 CH 100 5500MHz		11100	55.95	-18.05	74	60.01	40.71	13.42	58.19	160	220	P	H
		11100	50.31	-3.69	54	54.37	40.71	13.42	58.19	160	220	A	H
	*	16650	51.7	-16.5	68.2	55.41	39.58	15.38	58.67	180	353	P	H
		11100	56.95	-17.05	74	61.01	40.71	13.42	58.19	155	210	P	V
		11100	50.07	-3.93	54	54.13	40.71	13.42	58.19	155	210	A	V
	*	16650	52.75	-15.45	68.2	56.46	39.58	15.38	58.67	171	352	P	V
802.11n HT20 CH 116 5580MHz		11160	56.36	-17.64	74	60.24	40.8	13.43	58.11	183	32	P	H
		11160	50.34	-3.66	54	54.22	40.8	13.43	58.11	183	32	A	H
		16740	51.85	-16.35	68.2	55.1	39.93	15.4	58.58	163	332	P	H
		11160	56.7	-17.3	74	60.58	40.8	13.43	58.11	170	200	P	V
		11160	49.72	-4.28	54	53.6	40.8	13.43	58.11	170	200	A	V
	*	16740	51.4	-16.8	68.2	54.65	39.93	15.4	58.58	156	350	P	V
802.11n HT20 CH 140 5700MHz		11400	54.34	-19.66	74	57.65	41.08	13.46	57.85	157	285	P	H
		11400	47.71	-6.29	54	51.02	41.08	13.46	57.85	157	285	A	H
	*	17100	54.51	-13.69	68.2	55.62	41.6	15.45	58.16	165	246	P	H
		11400	57.22	-16.78	74	60.53	41.08	13.46	57.85	122	291	P	V
		11400	50.3	-3.7	54	53.61	41.08	13.46	57.85	122	291	A	V
	*	17100	54.29	-13.91	68.2	55.4	41.6	15.45	58.16	153	102	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)
802.11n HT40 CH 102 5510MHz		5406.64	45.23	-28.77	74	36.69	31.43	10.23	33.12	100	199	P	H
		5468.56	46.11	-22.09	68.2	37.44	31.48	10.3	33.11	100	199	P	H
		5457.76	37.86	-16.14	54	29.22	31.47	10.28	33.11	100	199	A	H
	*	5510	90.11	-	-	81.39	31.5	10.32	33.1	100	199	P	H
		5510	83.82	-	-	75.1	31.5	10.32	33.1	100	199	A	H
		5749.25	45.86	-22.34	68.2	36.58	31.83	10.55	33.1	100	199	P	H
		5415.52	45.09	-28.91	74	36.52	31.44	10.25	33.12	109	194	P	V
		5461.84	50.95	-17.25	68.2	42.31	31.47	10.28	33.11	109	194	P	V
		5456.8	39.3	-14.7	54	30.66	31.47	10.28	33.11	109	194	A	V
	*	5510	97.44	-	-	88.72	31.5	10.32	33.1	109	194	P	V
		5510	91.16	-	-	82.44	31.5	10.32	33.1	109	194	A	V
		5756.18	46.58	-21.62	68.2	37.26	31.87	10.55	33.1	109	194	P	V
802.11n HT40 CH 110 5550MHz		5458.48	46.07	-27.93	74	37.43	31.47	10.28	33.11	100	129	P	H
		5469.76	45.15	-23.05	68.2	36.48	31.48	10.3	33.11	100	129	P	H
		5447.92	37.48	-16.52	54	28.84	31.47	10.28	33.11	100	129	A	H
	*	5550	89.98	-	-	81.18	31.54	10.36	33.1	100	129	P	H
		5550	83.92	-	-	75.12	31.54	10.36	33.1	100	129	A	H
		5737.28	46.18	-22.02	68.2	36.93	31.83	10.52	33.1	100	129	P	H
		5395.12	46.35	-27.65	74	37.81	31.43	10.23	33.12	109	194	P	V
		5466.64	44.78	-23.42	68.2	36.11	31.48	10.3	33.11	109	194	P	V
		5445.04	38.82	-15.18	54	30.19	31.46	10.28	33.11	109	194	A	V
	*	5550	98.27	-	-	89.47	31.54	10.36	33.1	109	194	P	V
		5550	92.03	-	-	83.23	31.54	10.36	33.1	109	194	A	V
		5738.54	45.86	-22.34	68.2	36.58	31.83	10.55	33.1	109	194	P	V



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 134 5670MHz		5458.85	45.72	-28.28	74	37.08	31.47	10.28	33.11	100	129	P	H
		5465.15	44.52	-23.68	68.2	35.85	31.48	10.3	33.11	100	129	P	H
		5457.45	37.41	-16.59	54	28.77	31.47	10.28	33.11	100	129	A	H
	*	5670	90.8	-	-	81.74	31.68	10.48	33.1	100	129	P	H
		5670	85.29	-	-	76.23	31.68	10.48	33.1	100	129	A	H
		5750.3	46.43	-21.77	68.2	37.15	31.83	10.55	33.1	100	129	P	H
		5453.6	45.85	-28.15	74	37.21	31.47	10.28	33.11	109	194	P	V
		5466.2	43.9	-24.3	68.2	35.23	31.48	10.3	33.11	109	194	P	V
		5456.75	37.36	-16.64	54	28.72	31.47	10.28	33.11	109	194	A	V
	*	5670	97.55	-	-	88.49	31.68	10.48	33.1	109	194	P	V
		5670	91.16	-	-	82.1	31.68	10.48	33.1	109	194	A	V
		5744.35	46.73	-21.47	68.2	37.45	31.83	10.55	33.1	109	194	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 HT40 CH 102 5510MHz		11020	55.86	-18.14	74	60.12	40.61	13.41	58.28	170	230	P	H
		11020	48.95	-5.05	54	53.21	40.61	13.41	58.28	170	230	A	H
	*	16530	52.72	-15.48	68.2	57.08	39.08	15.36	58.8	160	300	P	H
		11020	56.97	-17.03	74	61.23	40.61	13.41	58.28	170	230	P	V
		11020	50.48	-3.52	54	54.74	40.61	13.41	58.28	170	230	A	V
	*	16530	52.67	-15.53	68.2	57.03	39.08	15.36	58.8	160	300	P	V
802.11n HT40 CH 110 5550MHz		11100	56.27	-17.73	74	60.33	40.71	13.42	58.19	160	220	P	H
		11100	49.59	-4.41	54	53.65	40.71	13.42	58.19	160	220	A	H
	*	16650	52.07	-16.13	68.2	55.78	39.58	15.38	58.67	180	353	P	H
		11100	56.05	-17.95	74	60.11	40.71	13.42	58.19	155	210	P	V
		11100	50.16	-3.84	54	54.22	40.71	13.42	58.19	155	210	A	V
	*	16650	52.33	-15.87	68.2	56.04	39.58	15.38	58.67	171	352	P	V
802.11n HT40 CH 134 5670MHz		11340	54.88	-19.12	74	58.36	41	13.45	57.93	195	335	P	H
		11340	48.88	-5.12	54	52.36	41	13.45	57.93	195	335	A	H
	*	17010	52.54	-15.66	68.2	54.28	41.1	15.44	58.28	205	310	P	H
		11340	57.11	-16.89	74	60.59	41	13.45	57.93	205	325	P	V
		11340	50.78	-3.22	54	54.26	41	13.45	57.93	205	325	A	V
	*	17010	52.36	-15.84	68.2	54.1	41.1	15.44	58.28	185	290	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)
802.11ac VHT80 CH 106 5530MHz		5418.88	45.07	-28.93	74	36.5	31.44	10.25	33.12	100	128	P	H
		5466.4	44.56	-23.64	68.2	35.89	31.48	10.3	33.11	100	128	P	H
		5440.96	39.73	-14.27	54	31.1	31.46	10.28	33.11	100	128	A	H
	*	5530	87.22	-	-	78.46	31.52	10.34	33.1	100	128	P	H
		5530	80.31	-	-	71.55	31.52	10.34	33.1	100	128	A	H
		5729.405	45.61	-22.59	68.2	36.4	31.79	10.52	33.1	100	128	P	H
		5459.68	48.4	-25.6	74	39.76	31.47	10.28	33.11	109	220	P	V
		5463.52	49.31	-18.89	68.2	40.64	31.48	10.3	33.11	109	220	P	V
		5453.68	44.01	-9.99	54	35.37	31.47	10.28	33.11	109	220	A	V
	*	5530	94.44	-	-	85.68	31.52	10.34	33.1	109	220	P	V
		5530	86.2	-	-	77.44	31.52	10.34	33.1	109	220	A	V
		5730.35	47.03	-21.17	68.2	37.82	31.79	10.52	33.1	109	220	P	V
802.11ac VHT80 CH 122 5610MHz		5438.8	44.87	-29.13	74	36.24	31.46	10.28	33.11	100	128	P	H
		5461.36	44.63	-23.57	68.2	35.99	31.47	10.28	33.11	100	128	P	H
		5452	38.67	-15.33	54	30.03	31.47	10.28	33.11	100	128	A	H
	*	5610	86.94	-	-	78.05	31.58	10.41	33.1	100	128	P	H
		5610	80.11	-	-	71.22	31.58	10.41	33.1	100	128	A	H
		5743.825	46.32	-21.88	68.2	37.04	31.83	10.55	33.1	100	128	P	H
		5386.48	45.37	-28.63	74	36.86	31.42	10.21	33.12	109	220	P	V
		5460.16	44.24	-23.96	68.2	35.6	31.47	10.28	33.11	109	220	P	V
		5363.44	38.59	-15.41	54	30.1	31.41	10.21	33.13	109	220	A	V
	*	5610	94.29	-	-	85.4	31.58	10.41	33.1	109	220	P	V
		5610	86.45	-	-	77.56	31.58	10.41	33.1	109	220	A	V
		5743.125	46.79	-21.41	68.2	37.51	31.83	10.55	33.1	109	220	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 VHT80 CH 106 5530MHz		11060	55.87	-18.13	74	60.01	40.67	13.42	58.23	170	230	P	H
		11060	48.17	-5.83	54	52.31	40.67	13.42	58.23	170	230	A	H
	*	16590	52.11	-16.09	68.2	56.2	39.29	15.37	58.75	155	305	P	H
		11060	56.54	-17.46	74	60.68	40.67	13.42	58.23	166	212	P	V
		11060	50.17	-3.83	54	54.31	40.67	13.42	58.23	166	212	A	V
	*	16590	52.24	-15.96	68.2	56.33	39.29	15.37	58.75	132	343	P	V
802.11ac VHT80 CH 122 5610MHz		11220	55.86	-18.14	74	59.63	40.86	13.43	58.06	200	360	P	H
		11220	48.35	-5.65	54	52.12	40.86	13.43	58.06	200	360	A	H
	*	16830	51.45	-16.75	68.2	54.24	40.29	15.41	58.49	170	315	P	H
		11220	56.37	-17.63	74	60.14	40.86	13.43	58.06	155	260	P	V
		11220	50.86	-3.14	54	54.63	40.86	13.43	58.06	155	260	A	V
	*	16830	51.79	-16.41	68.2	54.58	40.29	15.41	58.49	180	220	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	54.5	-19.5	74	57.74	41.12	13.46	57.82	157	285	P	H
		11440	49.39	-4.61	54	52.63	41.12	13.46	57.82	157	285	A	H
	*	17160	54.13	-14.07	68.2	54.73	42	15.46	58.06	165	246	P	H
		11440	56.76	-17.24	74	60	41.12	13.46	57.82	122	291	P	V
		11440	50.39	-3.61	54	53.63	41.12	13.46	57.82	122	291	A	V
	*	17160	54.36	-13.84	68.2	54.96	42	15.46	58.06	153	102	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 HT20 CH 144 5720MHz		11440	53.12	-20.88	74	56.36	41.12	13.46	57.82	157	285	P	H
		11440	48.22	-5.78	54	51.46	41.12	13.46	57.82	157	285	A	H
	*	17160	54.01	-14.19	68.2	54.61	42	15.46	58.06	165	246	P	H
		11440	55.76	-18.24	74	59	41.12	13.46	57.82	122	291	P	V
		11440	49.97	-4.03	54	53.21	41.12	13.46	57.82	122	291	A	V
	*	17160	54.46	-13.74	68.2	55.06	42	15.46	58.06	153	102	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 HT40 CH 142 5710MHz		11420	54.53	-19.47	74	57.8	41.1	13.46	57.83	157	285	P	H
		11420	49.35	-4.65	54	52.62	41.1	13.46	57.83	157	285	A	H
	*	17130	53.26	-14.94	68.2	54.11	41.8	15.46	58.11	165	246	P	H
		11420	57.31	-16.69	74	60.58	41.1	13.46	57.83	122	291	P	V
		11420	50.34	-3.66	54	53.61	41.1	13.46	57.83	122	291	A	V
	*	17130	53.71	-14.49	68.2	54.56	41.8	15.46	58.11	153	102	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 VHT80 CH 138 5690MHz		11380	53.56	-20.44	74	56.92	41.06	13.45	57.87	157	285	P	H
		11380	48.27	-5.73	54	51.63	41.06	13.45	57.87	157	285	A	H
	*	17070	53.94	-14.26	68.2	55.31	41.4	15.44	58.21	165	246	P	H
		11380	56.26	-17.74	74	59.62	41.06	13.45	57.87	122	291	P	V
		11380	49.33	-4.67	54	52.69	41.06	13.45	57.87	122	291	A	V
	*	17070	54.37	-13.83	68.2	55.74	41.4	15.44	58.21	153	102	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Emission below 1GHz

WIFI 802.11a (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	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 LF		30	23.13	-16.87	40	29.16	25.2	0.74	31.97	-	-	P	H
		75.59	24.6	-15.4	40	42.38	12.94	1.14	31.86	-	-	P	H
		103.72	25.65	-17.85	43.5	38.77	17.26	1.33	31.71	-	-	P	H
		227.88	30.37	-15.63	46	43.51	16.18	1.96	31.28	-	-	P	H
		342.34	36.48	-9.52	46	44.97	20.33	2.39	31.21	100	52	P	H
		693.48	27.95	-18.05	46	30.61	25.2	3.4	31.26	-	-	P	H
		57.16	33.63	-6.37	40	51.76	12.78	1.01	31.92	-	-	P	V
		75.59	33.84	-6.16	40	51.91	12.65	1.14	31.86	100	86	P	V
		183.26	26.51	-16.99	43.5	40.89	15.26	1.76	31.4	-	-	P	V
		352.04	36.26	-9.74	46	44.53	20.51	2.43	31.21	-	-	P	V
		712.88	27.74	-18.26	46	30.29	25.24	3.46	31.25	-	-	P	V
		862.26	30.64	-15.36	46	31.5	26.51	3.81	31.18	-	-	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	Peak or Average
H/V	Horizontal or Vertical



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		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
2412MHz		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. 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)

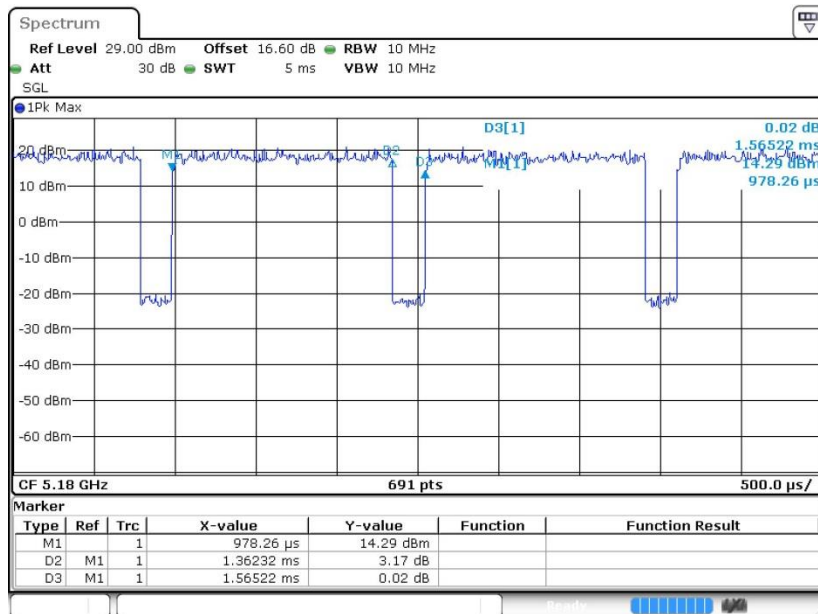
= -10.46(dB)

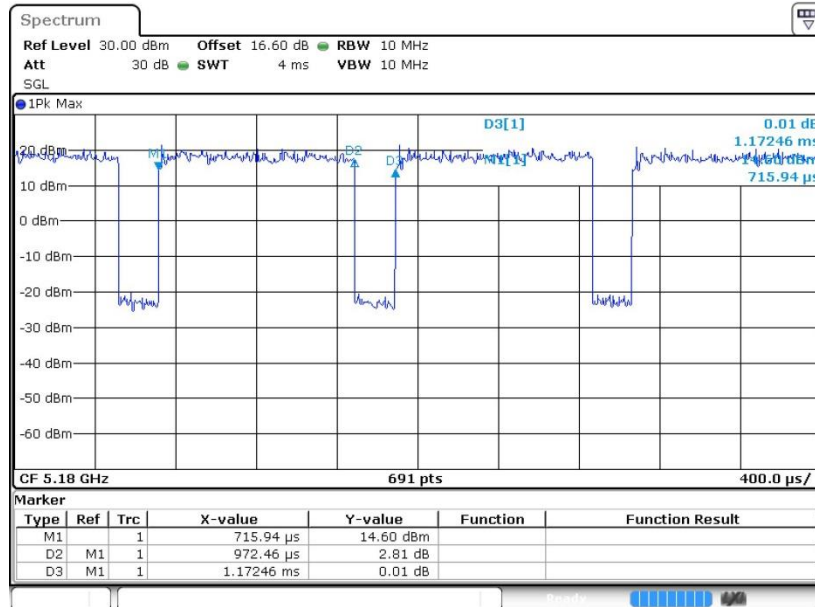
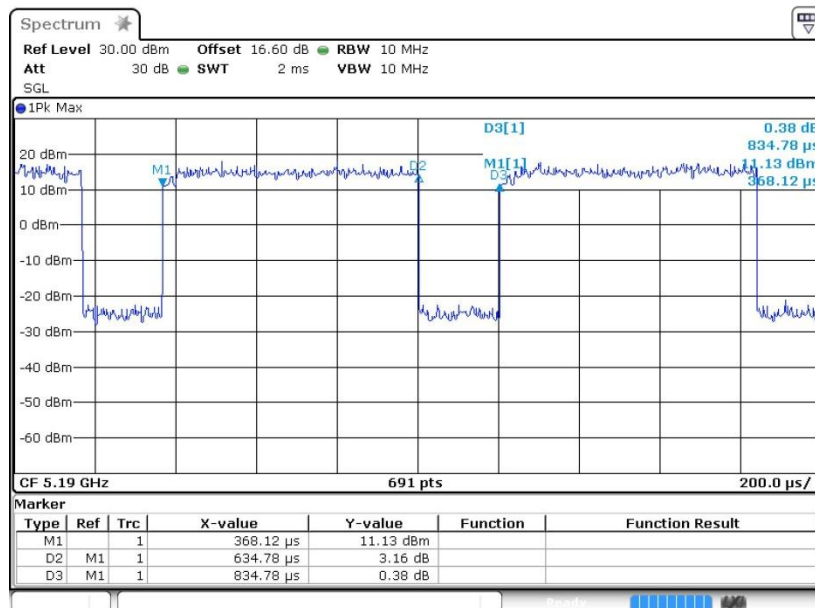
Both peak and average measured complies with the limit line, so test result is “PASS”.

Appendix D. Duty Cycle Plots

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	87.04	1.362	0.734	1kHz
802.11n HT20	82.94	0.973	1.028	3kHz
802.11n HT40	76.04	0.635	1.575	3kHz
802.11ac VHT80	55.34	0.248	4.035	10kHz

802.11a



802.11n HT20

802.11n HT40


802.11ac VHT80

