



FCC RF Test Report

APPLICANT : PAX Technology Limited
EQUIPMENT : Integrated Smart Terminal
BRAND NAME : PAX
MODEL NAME : E600
FCC ID : V5PE600
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure

The product was received on Oct. 29, 2018 and testing was completed on Nov. 14, 2018. We, Sporton International (Kunshan) Inc., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

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

Approved by: Eric Shih / Manager



Sporton International (Shenzhen) Inc.

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Guangdong Province 518055, China***



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR8O2912E	Rev. 01	Initial issue of report	Dec. 27, 2018

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 7.20 dB at 5725.08 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 19.17 dB at 12.92 MHz
3.6	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.7	15.203 & 15.407(a)	Antenna Requirement	N/A	Pass	-



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	Integrated Smart Terminal
Brand Name	PAX
Model Name	E600
FCC ID	V5PE600
EUT supports Radios application	WCDMA/LTE/NFC WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 5GHz 802.11a/n HT20/HT40 Bluetooth BR/EDR/LE
IMEI Code	Conducted: 869715033779375 Conduction: 868621028933798 Radiation: 868621028932196
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 ~ 5700 MHz
Maximum Output Power to Antenna	<5180 MHz ~ 5240 MHz> 802.11a : 10.30 dBm / 0.0107 W 802.11n HT20 : 10.29 dBm / 0.0107 W 802.11n HT40 : 9.96 dBm / 0.0099 W <5260 MHz ~ 5320 MHz> 802.11a : 10.12 dBm / 0.0103 W 802.11n HT20 : 10.09 dBm / 0.0102 W 802.11n HT40 : 9.26 dBm / 0.0084 W <5500 MHz ~ 5700 MHz > 802.11a : 9.82 dBm / 0.0096 W 802.11n HT20 : 9.80 dBm / 0.0095 W 802.11n HT40 : 9.47 dBm / 0.0089 W
99% Occupied Bandwidth	<5180 MHz ~ 5240 MHz> 802.11a : 18.63 MHz 802.11n HT20 : 19.43 MHz 802.11n HT40 : 36.66 MHz <5260 MHz ~ 5320 MHz> 802.11a : 18.73 MHz 802.11n HT20 : 19.58 MHz 802.11n HT40 : 36.66 MHz <5500 MHz ~ 5700 MHz > 802.11a : 18.93 MHz 802.11n HT20 : 19.53 MHz 802.11n HT40 : 37.06 MHz
Antenna Type / Gain	<5150 MHz ~ 5250 MHz> FPC Antenna with gain 2.00 dBi <5250 MHz ~ 5350 MHz> FPC Antenna with gain 2.00 dBi <5470 MHz ~ 5725 MHz> FPC Antenna with gain 2.00 dBi
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

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 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600156-0).

Test Site	Sporton International (Shenzhen) Inc.		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen City, Guangdong Province 518055, China TEL: 86-755-8637-9589 FAX: 86-755-8637-9595		
Test Site No.	Sporton Site No.	FCC designation No.	FCC Test Firm Registration No.
	TH01-SZ CO01-SZ	CN5018	337463

Test Site	Sporton International (Shenzhen) Inc.		
Test Site Location	No. 3 Bldg the third floor of south, Shahe River west, Fengzeyuan Warehouse, Nanshan District, Shenzhen City, Guangdong Province 518055, China TEL: 86-755- 3320-2398		
Test Site No.	Sporton Site No.	FCC designation No.	FCC Test Firm Registration No.
	03CH02-SZ	CN5019	577730

1.7 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 (Y plane) were recorded in this report.
- b. AC power line Conducted Emission was tested under maximum output power.

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5150-5250 MHz Band 1 (U-NII-1)	36	5180	44	5220
	38*	5190	46*	5230
	40	5200	48	5240
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
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
	-	-	134*	5670
	108	5540	136	5680
	110*	5550	140	5700

Note: The above Frequency and Channel in "*" were 802.11n HT40.

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

Test Cases	
AC Conducted Emission	Mode 1 : WCDMA Band 2 Idle + Bluetooth Link + WLAN Link (5G) + Battery (Charging from adapter) + Earphone
Remark: For Radiated Test Cases, The tests were performance with Adapter, Battery, Earphone.	

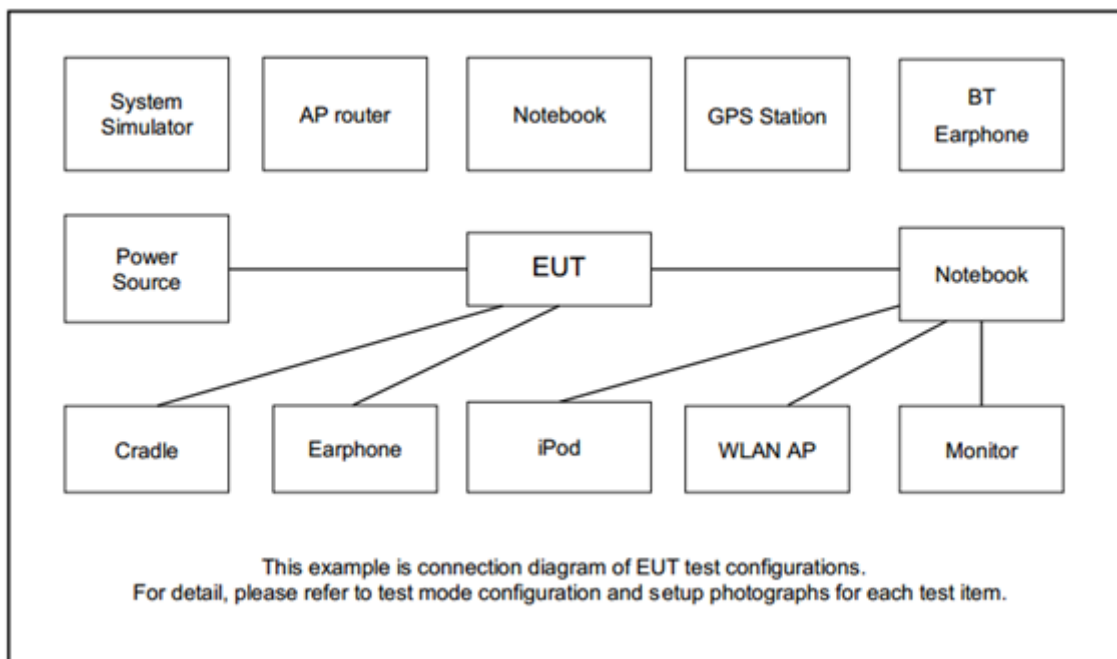


Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz	Band III : 5470-5725MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

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

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

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	WLAN AP	D-Link	DIR-820L	KA2IR820LA1	N/A	Unshielded, 1.8 m
3.	Notebook	Lenovo	E540	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	Bluetooth Earphone	Samsung	EO-MG900	N/A	N/A	N/A
5.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A
6.	Earphone	Apple	MC690ZP/A	N/A	Shielded, 1.8 m	N/A



2.5 EUT Operation Test Setup

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

For AC power line conducted emissions, the EUT was set to connect with the Notebook 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.

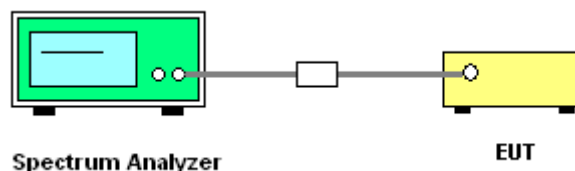
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

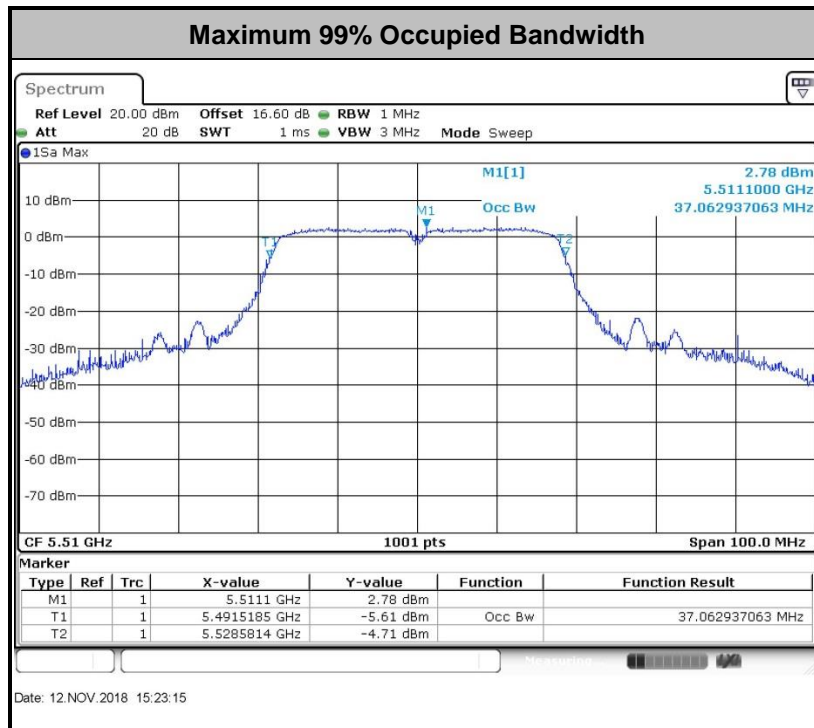
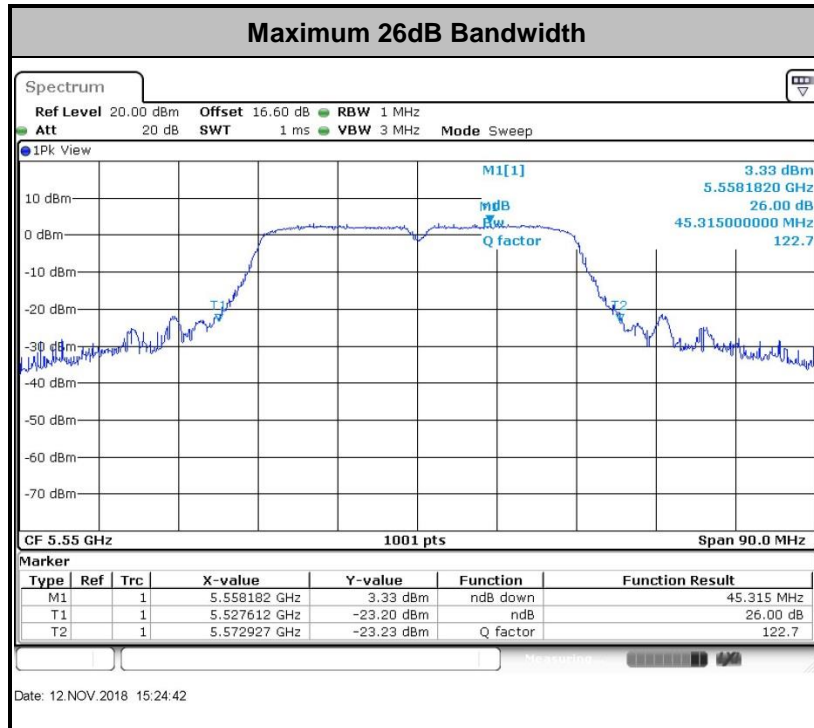
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB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

3.1.4 Test Setup



3.1.5 Test Result of 26dB & 99% Occupied Bandwidth

Please refer to Appendix A.



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

3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

<FCC 14-30 CFR 15.407>

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

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

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

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.

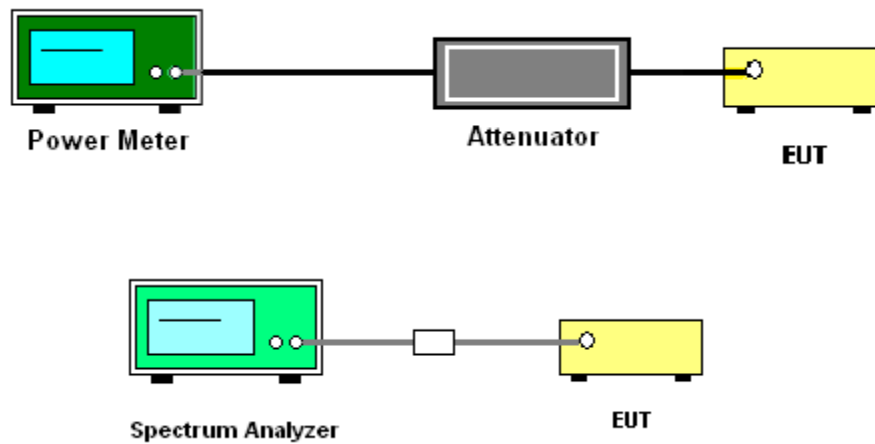
3.2.3 Test Procedures

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.

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.

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.

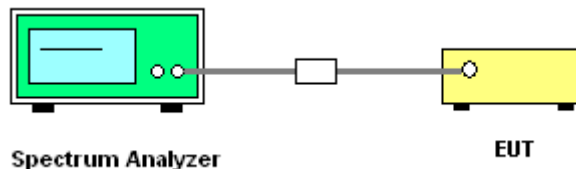
Section F) Maximum power spectral density.

Method SA-2

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

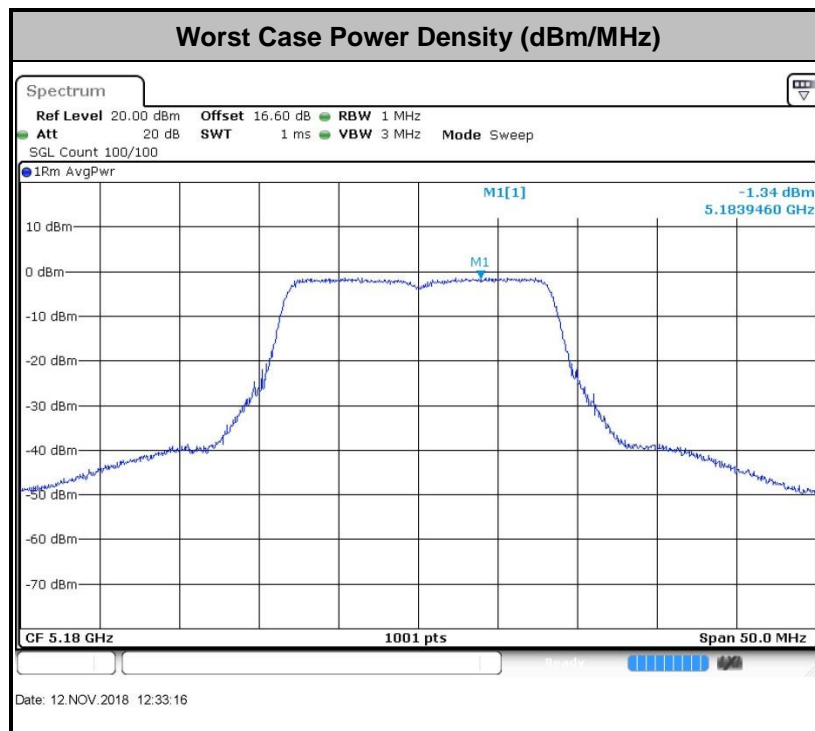
- Measure the duty cycle.
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz.
- Set VBW \geq 3 MHz.
- Number of points in sweep \geq 2 Span / RBW.
- Sweep time = auto.
- Detector = RMS
- Trace average at least 100 traces in power averaging mode.
- Add $10 \log(1/x)$, 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.

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

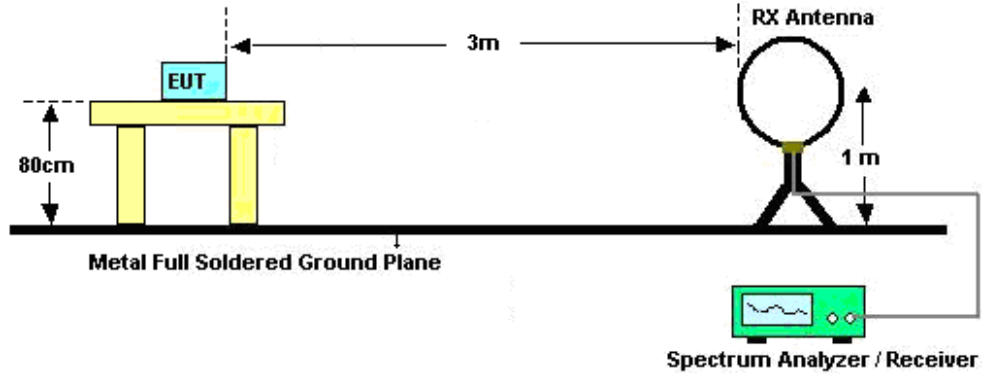
The measuring equipment is listed in the section 4 of this test report.

3.4.3 Test Procedures

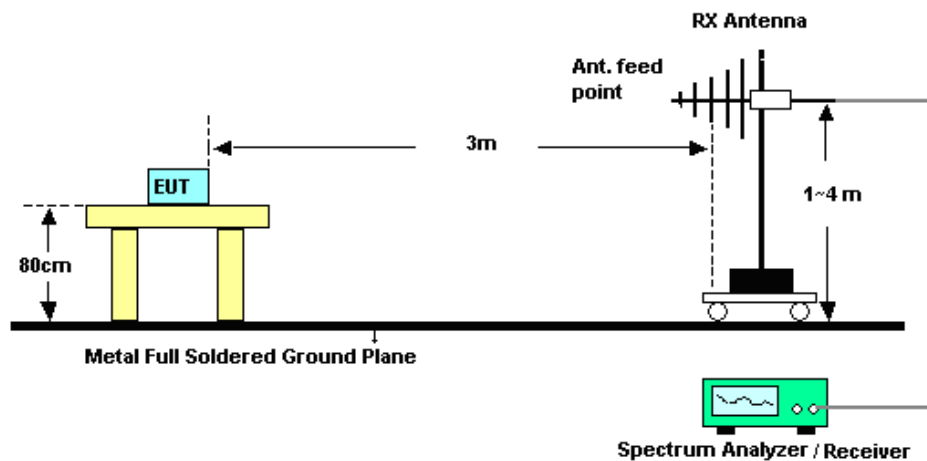
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
Section G) Unwanted emissions measurement.
 - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold
 - (2) Procedure for Peak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

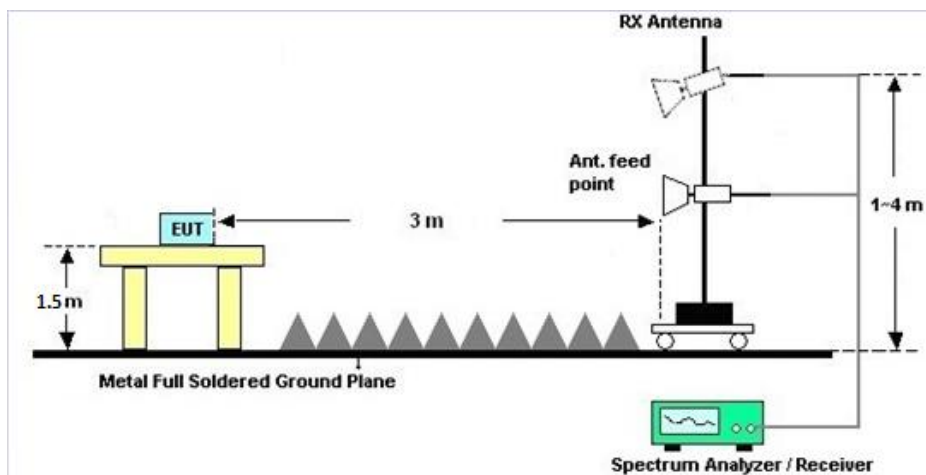
For radiated emissions below 30MHz



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

*Decreases with the logarithm of the frequency.

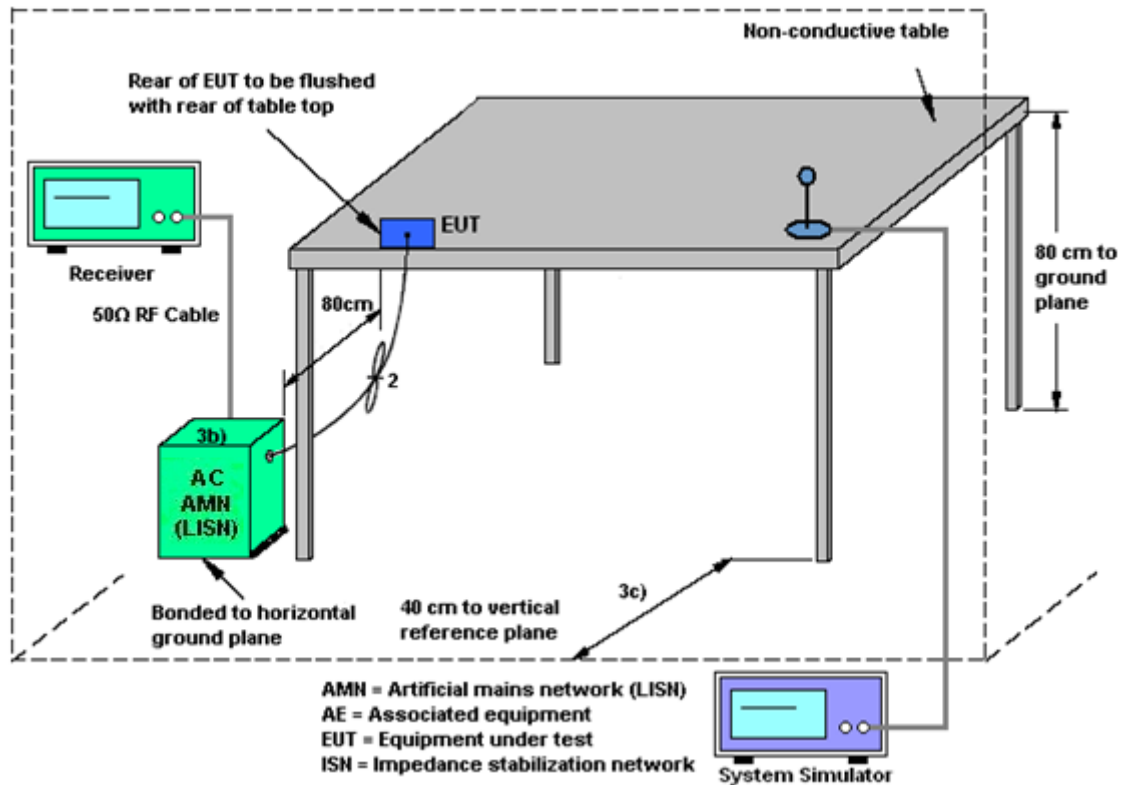
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

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

3.5.4 Test Setup



3.5.5 Test Result of AC Conducted Emission

Please refer to Appendix B.



3.6 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. 19, 2018	Nov. 12, 2018	Apr.18, 2019	Conducted (TH01-SZ)
Pulse Power Sensor	Anritsu	MA2411B	1207253	30MHz~40GHz	Dec. 26, 2017	Nov. 12, 2018	Dec.25, 2018	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	50MHz Bandwidth	Dec.26, 2017	Nov. 12, 2018	Dec.25, 2018	Conducted (TH01-SZ)
DC Power Supply	GWINSTEK	AnritsuGPS-3030D	EM882636	Max 30V	Apr. 19, 2018	Nov. 12, 2018	Apr. 18, 2019	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhonggroup	LP-150U	H2014081803	-40~+150°C	Dec. 26, 2017	Nov. 12, 2018	Dec. 25, 2018	Conducted (TH01-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Apr. 19, 2018	Nov. 06, 2018	Apr. 18, 2019	Radiation (03CH02-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	May 14, 2018	Nov. 06, 2018	May 13, 2019	Radiation (03CH02-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz-2GHz	May 10, 2018	Nov. 06, 2018	May 09, 2019	Radiation (03CH02-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1285	1GHz~18GHz	Dec. 13, 2017	Nov. 06, 2018	Dec. 12, 2018	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 30, 2018	Nov. 06, 2018	Jul. 29, 2019	Radiation (03CH02-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Mar. 30, 2018	Nov. 06, 2018	Mar. 29, 2019	Radiation (03CH02-SZ)
LF Amplifier	Burgeon	BPA-530	102211	0.01~3000Mhz	Oct. 20, 2018	Nov. 06, 2018	Oct. 19, 2019	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1707137	1GHz~18GHz	Oct. 20, 2018	Nov. 06, 2018	Oct. 19, 2019	Radiation (03CH02-SZ)
Amplifier	Agilent	8449B	3008A01023	1GHz~26.5GHz	Oct. 20, 2018	Nov. 06, 2018	Oct. 19, 2019	Radiation (03CH02-SZ)
AC Power Source	Chroma	61601	616010002470	N/A	NCR	Nov. 06, 2018	NCR	Radiation (03CH02-SZ)
Turn Table	Chaintek	T-200	N/A	0~360 degree	NCR	Nov. 06, 2018	NCR	Radiation (03CH02-SZ)
Antenna Mast	Chaintek	MBS-400	N/A	1 m~4 m	NCR	Nov. 06, 2018	NCR	Radiation (03CH02-SZ)
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Dec. 26, 2017	Nov. 14, 2018	Dec. 25, 2018	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103912	9kHz~30MHz	Oct. 18, 2018	Nov. 14, 2018	Oct. 17, 2019	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Dec. 26, 2017	Nov. 14, 2018	Dec. 25, 2018	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Jul. 18, 2018	Nov. 14, 2018	Jul. 17, 2019	Conduction (CO01-SZ)

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.6 dB
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.1 dB
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

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

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

Test Engineer:	Shuai Qian	Temperature:	24~26	°C
Test Date:	2018/11/12	Relative Humidity:	50~53	%

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	18.63	23.33	-	22.70		
11a	6Mbps	1	44	5220	18.58	23.48	-	22.69		
11a	6Mbps	1	48	5240	18.53	23.58	-	22.68		
HT20	MCS0	1	36	5180	19.38	23.93	-	22.87		
HT20	MCS0	1	44	5220	19.43	23.73	-	22.88		
HT20	MCS0	1	48	5240	19.33	23.68	-	22.86		
HT40	MCS0	1	38	5190	36.66	44.87	-	23.01		
HT40	MCS0	1	46	5230	36.56	44.78	-	23.01		

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	0.60	10.30	24.00	2.00		Pass
11a	6Mbps	1	44	5220	0.60	10.28	24.00	2.00		Pass
11a	6Mbps	1	48	5240	0.60	9.70	24.00	2.00		Pass
HT20	MCS0	1	36	5180	0.62	10.29	24.00	2.00		Pass
HT20	MCS0	1	44	5220	0.62	10.26	24.00	2.00		Pass
HT20	MCS0	1	48	5240	0.62	9.69	24.00	2.00		Pass
HT40	MCS0	1	38	5190	1.22	9.96	24.00	2.00		Pass
HT40	MCS0	1	46	5230	1.22	9.42	24.00	2.00		Pass

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	0.60	-0.74	11.00	2.00		Pass
11a	6Mbps	1	44	5220	0.60	-0.88	11.00	2.00		Pass
11a	6Mbps	1	48	5240	0.60	-1.37	11.00	2.00		Pass
HT20	MCS0	1	36	5180	0.62	-1.16	11.00	2.00		Pass
HT20	MCS0	1	44	5220	0.62	-1.47	11.00	2.00		Pass
HT20	MCS0	1	48	5240	0.62	-1.59	11.00	2.00		Pass
HT40	MCS0	1	38	5190	1.22	-4.59	11.00	2.00		Pass
HT40	MCS0	1	46	5230	1.22	-4.30	11.00	2.00		Pass

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	18.73	23.43	23.73	29.73	23.98	
11a	6M bps	1	60	5300	18.53	23.53	23.68	29.68	23.98	
11a	6M bps	1	64	5320	18.53	23.63	23.68	29.68	23.98	
HT20	MCS 0	1	52	5260	19.48	23.63	23.90	29.90	23.98	
HT20	MCS 0	1	60	5300	19.48	23.98	23.90	29.90	23.98	
HT20	MCS 0	1	64	5320	19.58	23.88	23.92	29.92	23.98	
HT40	MCS 0	1	54	5270	36.66	44.69	23.98	30.00	23.98	
HT40	MCS 0	1	62	5310	36.66	45.05	23.98	30.00	23.98	

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	0.60	9.68	23.98	2.00	26.99	Pass
11a	6M bps	1	60	5300	0.60	9.64	23.98	2.00	26.99	Pass
11a	6M bps	1	64	5320	0.60	10.12	23.98	2.00	26.99	Pass
HT20	MCS 0	1	52	5260	0.62	9.63	23.98	2.00	26.99	Pass
HT20	MCS 0	1	60	5300	0.62	9.63	23.98	2.00	26.99	Pass
HT20	MCS 0	1	64	5320	0.62	10.09	23.98	2.00	26.99	Pass
HT40	MCS 0	1	54	5270	1.22	9.26	23.98	2.00	26.99	Pass
HT40	MCS 0	1	62	5310	1.22	9.25	23.98	2.00	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	0.60	-1.68	11.00	2.00		Pass
11a	6M bps	1	60	5300	0.60	-1.45	11.00	2.00		Pass
11a	6M bps	1	64	5320	0.60	-1.16	11.00	2.00		Pass
HT20	MCS 0	1	52	5260	0.62	-1.67	11.00	2.00		Pass
HT20	MCS 0	1	60	5300	0.62	-1.56	11.00	2.00		Pass
HT20	MCS 0	1	64	5320	0.62	-0.97	11.00	2.00		Pass
HT40	MCS 0	1	54	5270	1.22	-5.06	11.00	2.00		Pass
HT40	MCS 0	1	62	5310	1.22	-4.58	11.00	2.00		Pass

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	18.93	23.73	23.77	29.77	23.98	
11a	6M bps	1	116	5580	18.73	23.93	23.73	29.73	23.98	
11a	6M bps	1	140	5700	18.68	23.73	23.71	29.71	23.98	
HT20	MCS 0	1	100	5500	19.53	24.08	23.91	29.91	23.98	
HT20	MCS 0	1	116	5580	19.43	23.78	23.88	29.88	23.98	
HT20	MCS 0	1	140	5700	19.23	24.13	23.84	29.84	23.98	
HT40	MCS 0	1	102	5510	37.06	44.24	23.98	30.00	23.98	
HT40	MCS 0	1	110	5550	36.86	45.32	23.98	30.00	23.98	
HT40	MCS 0	1	134	5670	36.96	45.14	23.98	30.00	23.98	

TEST RESULTS DATA
Average Power Table

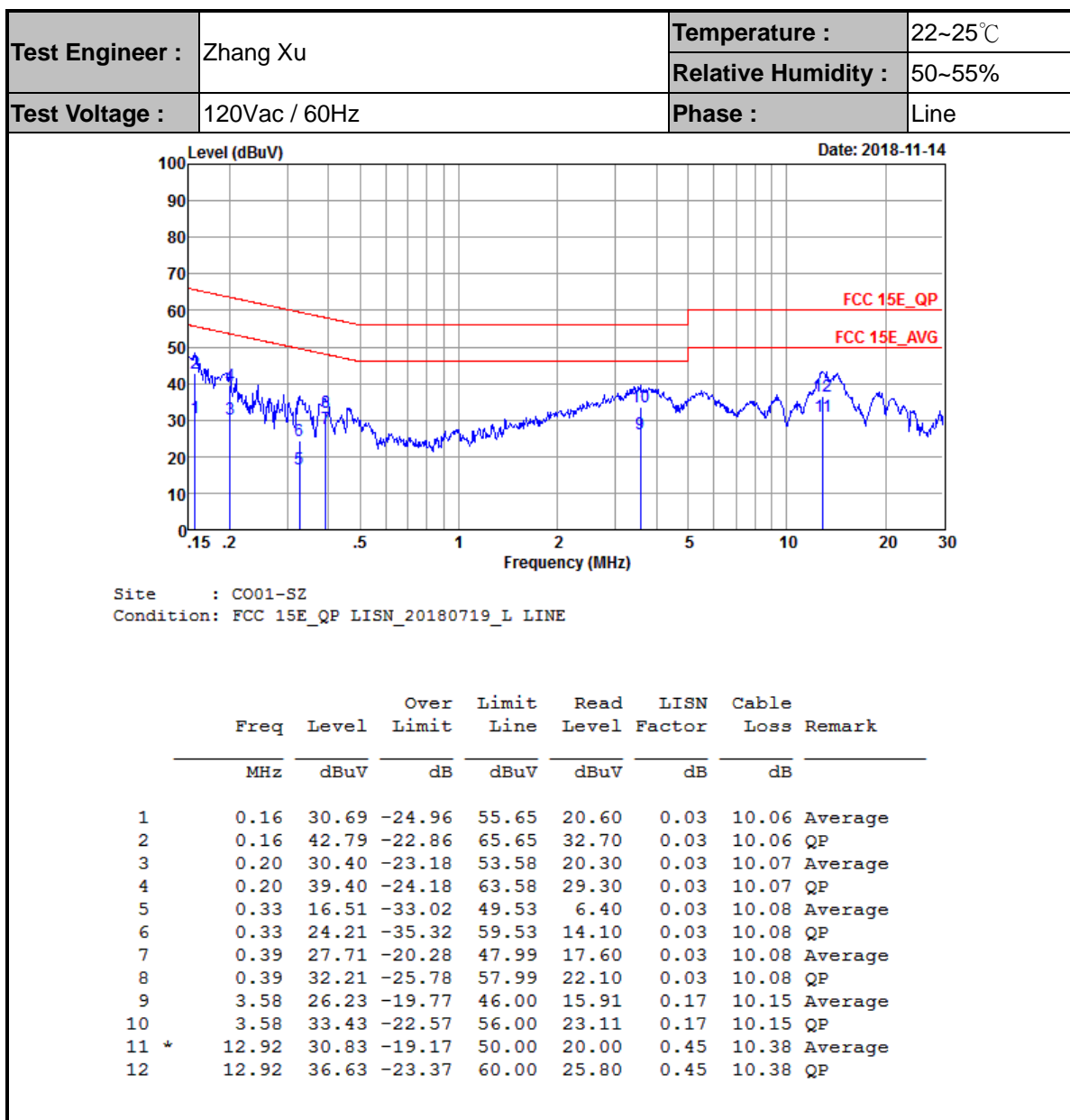
FCC Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6M bps	1	100	5500	0.60	9.04	23.98	2.00	26.99	Pass
11a	6M bps	1	116	5580	0.60	9.30	23.98	2.00	26.99	Pass
11a	6M bps	1	140	5700	0.60	9.82	23.98	2.00	26.99	Pass
HT20	MCS 0	1	100	5500	0.62	9.02	23.98	2.00	26.99	Pass
HT20	MCS 0	1	116	5580	0.62	9.27	23.98	2.00	26.99	Pass
HT20	MCS 0	1	140	5700	0.62	9.80	23.98	2.00	26.99	Pass
HT40	MCS 0	1	102	5510	1.22	8.78	23.98	2.00	26.99	Pass
HT40	MCS 0	1	110	5550	1.22	9.00	23.98	2.00	26.99	Pass
HT40	MCS 0	1	134	5670	1.22	9.47	23.98	2.00	26.99	Pass

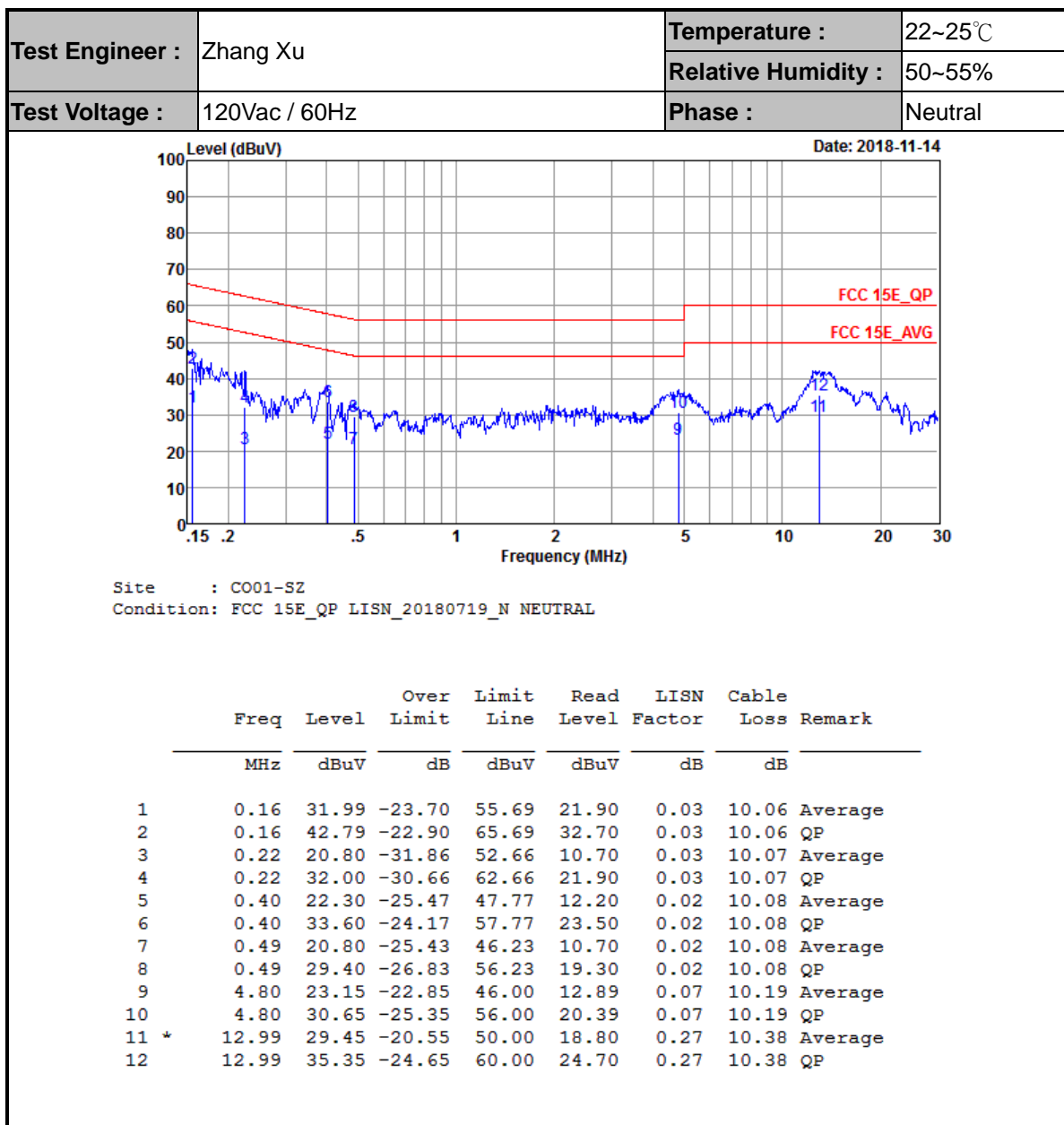
TEST RESULTS DATA
Power Spectral Density

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	0.60	-2.34	11.00	2.00		Pass
11a	6M bps	1	116	5580	0.60	-2.06	11.00	2.00		Pass
11a	6M bps	1	140	5700	0.60	-1.54	11.00	2.00		Pass
HT20	MCS 0	1	100	5500	0.62	-2.10	11.00	2.00		Pass
HT20	MCS 0	1	116	5580	0.62	-2.04	11.00	2.00		Pass
HT20	MCS 0	1	140	5700	0.62	-0.99	11.00	2.00		Pass
HT40	MCS 0	1	102	5510	1.22	-5.08	11.00	2.00		Pass
HT40	MCS 0	1	110	5550	1.22	-4.84	11.00	2.00		Pass
HT40	MCS 0	1	134	5670	1.22	-4.14	11.00	2.00		Pass



Appendix B. AC Conducted Emission Test Results







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		5149.5	47.53	-26.47	74	37.4	31.79	10.01	31.67	162	278	P	H
		5127.66	39.63	-14.37	54	29.54	31.78	9.98	31.67	162	278	A	H
	*	5180	94.03	-	-	83.85	31.81	10.03	31.66	162	278	P	H
	*	5180	87.32	-	-	77.14	31.81	10.03	31.66	162	278	A	H
		5122.72	46.86	-27.14	74	36.77	31.78	9.98	31.67	242	353	P	V
		5127.92	38.45	-15.55	54	28.36	31.78	9.98	31.67	242	353	A	V
	*	5180	92.73	-	-	82.55	31.81	10.03	31.66	242	353	P	V
	*	5180	86.79	-	-	76.61	31.81	10.03	31.66	242	353	A	V
802.11a CH 44 5220MHz		5102.18	46.89	-27.11	74	36.85	31.76	9.96	31.68	172	267	P	H
		5086.06	37.37	-16.63	54	27.36	31.75	9.94	31.68	172	267	A	H
	*	5220	94.86	-	-	84.61	31.83	10.07	31.65	172	267	P	H
	*	5220	87.1	-	-	76.85	31.83	10.07	31.65	172	267	A	H
		5431.16	46.99	-27.01	74	36.39	31.96	10.25	31.61	172	267	P	H
		5446.56	37.83	-16.17	54	27.19	31.97	10.28	31.61	172	267	A	H
		5092.04	47.17	-26.83	74	37.13	31.76	9.96	31.68	254	353	P	V
		5077.22	37.21	-16.79	54	27.2	31.75	9.94	31.68	254	353	A	V
	*	5220	93.8	-	-	83.55	31.83	10.07	31.65	254	353	P	V
	*	5220	87.58	-	-	77.33	31.83	10.07	31.65	254	353	A	V
		5393.64	46.25	-27.75	74	35.71	31.93	10.23	31.62	254	353	P	V
		5457.2	37.64	-16.36	54	27	31.97	10.28	31.61	254	353	A	V



802.11a CH 48 5240MHz		5066.82	46.31	-27.69	74	36.31	31.74	9.94	31.68	171	272	P	H
		5079.04	37.28	-16.72	54	27.27	31.75	9.94	31.68	171	272	A	H
	*	5240	96.74	-	-	86.45	31.84	10.1	31.65	171	272	P	H
	*	5240	89.24	-	-	78.95	31.84	10.1	31.65	171	272	A	H
		5374.6	46.79	-27.21	74	36.29	31.92	10.21	31.63	171	272	P	H
		5457.2	37.81	-16.19	54	27.17	31.97	10.28	31.61	171	272	A	H
		5080.08	46.2	-27.8	74	36.19	31.75	9.94	31.68	248	359	P	V
		5096.2	37.37	-16.63	54	27.33	31.76	9.96	31.68	248	359	A	V
	*	5240	94.68	-	-	84.39	31.84	10.1	31.65	248	359	P	V
	*	5240	88.86	-	-	78.57	31.84	10.1	31.65	248	359	A	V
		5452.72	46.85	-27.15	74	36.21	31.97	10.28	31.61	248	359	P	V
		5449.36	37.84	-16.16	54	27.2	31.97	10.28	31.61	248	359	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	48.51	-25.49	74	55.51	39.27	14.58	60.85	152	260	P	H
		15540	47.05	-26.95	74	52.75	39.02	17.43	62.15	189	238	P	H
		10360	48.2	-25.8	74	55.2	39.27	14.58	60.85	152	260	P	V
		15540	47.39	-26.61	74	53.09	39.02	17.43	62.15	189	238	P	V
802.11a CH 44 5220MHz		10440	48.46	-25.54	74	55.28	39.33	14.65	60.8	150	230	P	H
		15660	46.87	-27.13	74	52.84	38.73	17.5	62.2	160	225	P	H
		10440	48.59	-25.41	74	55.41	39.33	14.65	60.8	150	230	P	V
		15660	47.87	-26.13	74	53.84	38.73	17.5	62.2	160	225	P	V
802.11a CH 48 5240MHz		10480	48.75	-25.25	74	55.46	39.38	14.67	60.76	150	289	P	H
		15720	47.56	-26.44	74	53.69	38.56	17.55	62.24	150	291	P	H
		10480	47.79	-26.21	74	54.5	39.38	14.67	60.76	150	289	P	V
		15720	46.86	-27.14	74	52.99	38.56	17.55	62.24	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 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		5150	47.74	-26.26	74	37.61	31.79	10.01	31.67	145	281	P	H
		5128.44	40.14	-13.86	54	30.05	31.78	9.98	31.67	145	281	A	H
	*	5180	94.21	-	-	84.03	31.81	10.03	31.66	145	281	P	H
	*	5180	88.4	-	-	78.22	31.81	10.03	31.66	145	281	A	H
		5041.34	47.04	-26.96	74	37.09	31.73	9.91	31.69	254	338	P	V
		5128.18	37.6	-16.4	54	27.51	31.78	9.98	31.67	254	338	A	V
	*	5180	89.85	-	-	79.67	31.81	10.03	31.66	254	338	P	V
	*	5180	83.53	-	-	73.35	31.81	10.03	31.66	254	338	A	V
802.11n HT20 CH 44 5220MHz		5020.8	46.53	-27.47	74	36.61	31.72	9.89	31.69	152	283	P	H
		5128.96	37.27	-16.73	54	27.18	31.78	9.98	31.67	152	283	A	H
	*	5220	94.35	-	-	84.1	31.83	10.07	31.65	152	283	P	H
	*	5220	88.14	-	-	77.89	31.83	10.07	31.65	152	283	A	H
		5450.48	46.86	-27.14	74	36.22	31.97	10.28	31.61	152	283	P	H
		5451.04	37.67	-16.33	54	27.03	31.97	10.28	31.61	152	283	A	H
		5031.98	46.87	-27.13	74	36.95	31.72	9.89	31.69	252	359	P	V
		5078.78	37.29	-16.71	54	27.28	31.75	9.94	31.68	252	359	A	V
	*	5220	93.22	-	-	82.97	31.83	10.07	31.65	252	359	P	V
	*	5220	87.98	-	-	77.73	31.83	10.07	31.65	252	359	A	V
		5452.44	46.81	-27.19	74	36.17	31.97	10.28	31.61	252	359	P	V
		5433.96	37.66	-16.34	54	27.06	31.96	10.25	31.61	252	359	A	V



802.11n HT20 CH 48 5240MHz		5044.46	46.31	-27.69	74	36.36	31.73	9.91	31.69	148	285	P	H
		5049.14	37.21	-16.79	54	27.26	31.73	9.91	31.69	148	285	A	H
		5240	94	-	-	83.71	31.84	10.1	31.65	148	285	P	H
	*	5240	87.92	-	-	77.63	31.84	10.1	31.65	148	285	A	H
		5397	46.96	-27.04	74	36.41	31.94	10.23	31.62	148	285	P	H
		5432.28	37.56	-16.44	54	26.96	31.96	10.25	31.61	148	285	A	H
		5032.76	46.9	-27.1	74	36.98	31.72	9.89	31.69	237	350	P	V
		5076.18	37.26	-16.74	54	27.25	31.75	9.94	31.68	237	350	A	V
	*	5240	91.75	-	-	81.46	31.84	10.1	31.65	237	350	P	V
	*	5240	86.49	-	-	76.2	31.84	10.1	31.65	237	350	A	V
		5412.4	47.4	-26.6	74	36.84	31.95	10.23	31.62	237	350	P	V
		5453.84	37.56	-16.44	54	26.92	31.97	10.28	31.61	237	350	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	48.95	-25.05	74	55.95	39.27	14.58	60.85	152	260	P	H
		15540	47.55	-26.45	74	53.25	39.02	17.43	62.15	189	238	P	H
		10360	48.18	-25.82	74	55.18	39.27	14.58	60.85	152	260	P	V
		15540	47.86	-26.14	74	53.56	39.02	17.43	62.15	189	238	P	V
802.11n HT20 CH 44 5220MHz		10440	48.81	-25.19	74	55.63	39.33	14.65	60.8	150	230	P	H
		15660	46.87	-27.13	74	52.84	38.73	17.5	62.2	160	225	P	H
		10440	48.41	-25.59	74	55.23	39.33	14.65	60.8	150	230	P	V
		15660	47.31	-26.69	74	53.28	38.73	17.5	62.2	160	225	P	V
802.11n HT20 CH 48 5240MHz		10480	48.6	-25.4	74	55.31	39.38	14.67	60.76	150	289	P	H
		15720	46.82	-27.18	74	52.95	38.56	17.55	62.24	150	291	P	H
		10480	48.76	-25.24	74	55.47	39.38	14.67	60.76	150	289	P	V
		15720	47.68	-26.32	74	53.81	38.56	17.55	62.24	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		5147.94	52.34	-21.66	74	42.21	31.79	10.01	31.67	158	277	P	H
		5148.98	44.92	-9.08	54	34.79	31.79	10.01	31.67	158	277	A	H
	*	5190	93.14	-	-	82.94	31.81	10.05	31.66	158	277	P	H
	*	5190	86.35	-	-	76.15	31.81	10.05	31.66	158	277	A	H
		5458.04	46.67	-27.33	74	36.03	31.97	10.28	31.61	158	277	P	H
		5458.6	39.09	-14.91	54	28.45	31.97	10.28	31.61	158	277	A	H
		5149.76	50.75	-23.25	74	40.62	31.79	10.01	31.67	255	360	P	V
		5149.24	43.95	-10.05	54	33.82	31.79	10.01	31.67	255	360	A	V
	*	5190	91.62	-	-	81.42	31.81	10.05	31.66	255	360	P	V
	*	5190	84.35	-	-	74.15	31.81	10.05	31.66	255	360	A	V
		5443.48	46.84	-27.16	74	36.21	31.96	10.28	31.61	255	360	P	V
		5455.24	39.07	-14.93	54	28.43	31.97	10.28	31.61	255	360	A	V
802.11n HT40 CH 46 5230MHz		5083.72	49.02	-24.98	74	39.01	31.75	9.94	31.68	158	277	P	H
		5064.74	40.35	-13.65	54	30.35	31.74	9.94	31.68	158	277	A	H
	*	5230	91.9	-	-	81.64	31.84	10.07	31.65	158	277	P	H
	*	5230	84.84	-	-	74.58	31.84	10.07	31.65	158	277	A	H
		5391.96	46.57	-27.43	74	36.03	31.93	10.23	31.62	158	277	P	H
		5458.04	39.36	-14.64	54	28.72	31.97	10.28	31.61	158	277	A	H
		5049.92	49.18	-24.82	74	39.23	31.73	9.91	31.69	262	357	P	V
		5126.88	40.42	-13.58	54	30.33	31.78	9.98	31.67	262	357	A	V
	*	5230	91.5	-	-	81.24	31.84	10.07	31.65	262	357	P	V
	*	5230	84.84	-	-	74.58	31.84	10.07	31.65	262	357	A	V
		5457.2	47.13	-26.87	74	36.49	31.97	10.28	31.61	262	357	P	V
		5388.32	39.1	-14.9	54	28.56	31.93	10.23	31.62	262	357	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	48.73	-25.27	74	55.7	39.28	14.59	60.84	150	360	P	H
		15570	47.04	-26.96	74	52.83	38.93	17.44	62.16	155	360	P	H
		10380	48.49	-25.51	74	55.46	39.28	14.59	60.84	150	360	P	V
		15570	47.62	-26.38	74	53.41	38.93	17.44	62.16	155	360	P	V
802.11n HT40 CH 46 5230MHz		10460	48.85	-25.15	74	55.64	39.35	14.65	60.79	150	360	P	H
		15690	49.77	-24.23	74	55.82	38.64	17.53	62.22	150	225	P	H
		10460	49.49	-24.51	74	56.28	39.35	14.65	60.79	150	360	P	V
		15690	47.92	-26.08	74	53.97	38.64	17.53	62.22	150	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		5040.95	46.58	-27.42	74	36.63	31.73	9.91	31.69	171	269	P	H
		5391.96	46.57	-27.43	74	36.03	31.93	10.23	31.62	158	277	A	H
	*	5260	96.9	-	-	86.59	31.86	10.1	31.65	171	269	P	H
	*	5260	89.22	-	-	78.91	31.86	10.1	31.65	171	269	A	H
		5452.56	47.15	-26.85	74	36.51	31.97	10.28	31.61	171	269	P	H
		5445.12	37.96	-16.04	54	27.33	31.96	10.28	31.61	171	269	A	H
		5040.6	46.65	-27.35	74	36.7	31.73	9.91	31.69	249	355	P	V
		5047.25	37.42	-16.58	54	27.47	31.73	9.91	31.69	249	355	A	V
	*	5260	93.84	-	-	83.53	31.86	10.1	31.65	249	355	P	V
	*	5260	87.43	-	-	77.12	31.86	10.1	31.65	249	355	A	V
		5429.28	46.56	-27.44	74	35.96	31.96	10.25	31.61	249	355	P	V
		5455.68	37.87	-16.13	54	27.23	31.97	10.28	31.61	249	355	A	V
802.11a CH 60 5300MHz		5088.55	45.97	-28.03	74	35.93	31.76	9.96	31.68	134	294	P	H
		5057.75	37.62	-16.38	54	27.66	31.74	9.91	31.69	134	294	A	H
	*	5300	96.75	-	-	86.37	31.88	10.14	31.64	134	294	P	H
	*	5300	89.37	-	-	78.99	31.88	10.14	31.64	134	294	A	H
		5446.56	47.35	-26.65	74	36.71	31.97	10.28	31.61	134	294	P	H
		5352.24	40.14	-13.86	54	29.67	31.91	10.19	31.63	134	294	A	H
		5089.25	46.35	-27.65	74	36.31	31.76	9.96	31.68	105	341	P	V
		5099.75	37.37	-16.63	54	27.33	31.76	9.96	31.68	105	341	A	V
	*	5300	92.79	-	-	82.41	31.88	10.14	31.64	105	341	P	V
	*	5300	86.61	-	-	76.23	31.88	10.14	31.64	105	341	A	V
		5440.8	46.89	-27.11	74	36.26	31.96	10.28	31.61	105	341	P	V
		5352.24	38.86	-15.14	54	28.39	31.91	10.19	31.63	105	341	A	V



802.11a CH 64 5320MHz	*	5320	96.78	-	-	86.37	31.89	10.16	31.64	129	291	P	H
	*	5320	89.98	-	-	79.57	31.89	10.16	31.64	129	291	A	H
		5372	48.59	-25.41	74	38.09	31.92	10.21	31.63	129	291	P	H
		5372.16	40.16	-13.84	54	29.66	31.92	10.21	31.63	129	291	A	H
	*	5320	93.02	-	-	82.61	31.89	10.16	31.64	106	336	P	V
	*	5320	86.98	-	-	76.57	31.89	10.16	31.64	106	336	A	V
		5448.96	47.3	-26.7	74	36.66	31.97	10.28	31.61	106	336	P	V
		5372.16	38.63	-15.37	54	28.13	31.92	10.21	31.63	106	336	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	47.92	-26.08	74	54.51	39.42	14.7	60.71	150	220	P	H
		15780	47.97	-26.03	74	54.2	38.44	17.59	62.26	159	345	P	H
		10520	48.05	-25.95	74	54.64	39.42	14.7	60.71	150	220	P	V
		15780	47.79	-26.21	74	54.02	38.44	17.59	62.26	159	345	P	V
802.11a CH 60 5300MHz		10600	48.31	-25.69	74	54.55	39.52	14.76	60.52	185	215	P	H
		15900	47.7	-26.3	74	54.19	38.15	17.68	62.32	196	190	P	H
		10600	48.22	-25.78	74	54.46	39.52	14.76	60.52	185	215	P	V
		15900	46.73	-27.27	74	53.22	38.15	17.68	62.32	196	190	P	V
802.11a CH 64 5320MHz		10640	47.77	-26.23	74	53.86	39.57	14.79	60.45	152	135	P	H
		15960	46.74	-27.26	74	53.4	37.98	17.71	62.35	173	245	P	H
		10640	48.23	-25.77	74	54.32	39.57	14.79	60.45	152	135	P	V
		15960	46.44	-27.56	74	53.1	37.98	17.71	62.35	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)
802.11n HT20 CH 52 5260MHz		5106.4	46.32	-27.68	74	36.27	31.77	9.96	31.68	122	293	P	H
		5076.3	37.51	-16.49	54	27.5	31.75	9.94	31.68	122	293	A	H
	*	5260	94.47	-	-	84.16	31.86	10.1	31.65	122	293	P	H
	*	5260	89.71	-	-	79.4	31.86	10.1	31.65	122	293	A	H
		5455.44	46.99	-27.01	74	36.35	31.97	10.28	31.61	122	293	P	H
		5434.08	38.03	-15.97	54	27.43	31.96	10.25	31.61	122	293	A	H
		5074.2	46.73	-27.27	74	36.72	31.75	9.94	31.68	224	354	P	V
		5091.35	37.49	-16.51	54	27.45	31.76	9.96	31.68	224	354	A	V
	*	5260	94.78	-	-	84.47	31.86	10.1	31.65	224	354	P	V
	*	5260	86.9	-	-	76.59	31.86	10.1	31.65	224	354	A	V
		5417.52	46.99	-27.01	74	36.41	31.95	10.25	31.62	224	354	P	V
		5446.56	38.01	-15.99	54	27.37	31.97	10.28	31.61	224	354	A	V
802.11n HT20 CH 60 5300MHz		5096.95	47.45	-26.55	74	37.41	31.76	9.96	31.68	129	294	P	H
		5099.75	37.52	-16.48	54	27.48	31.76	9.96	31.68	129	294	A	H
	*	5300	94.99	-	-	84.61	31.88	10.14	31.64	129	294	P	H
	*	5300	88.53	-	-	78.15	31.88	10.14	31.64	129	294	A	H
		5447.76	47.17	-26.83	74	36.53	31.97	10.28	31.61	129	294	P	H
		5351.52	40.37	-13.63	54	29.9	31.91	10.19	31.63	129	294	A	H
		5081.2	47.3	-26.7	74	37.29	31.75	9.94	31.68	239	360	P	V
		5053.9	37.46	-16.54	54	27.51	31.73	9.91	31.69	239	360	A	V
	*	5300	93.78	-	-	83.4	31.88	10.14	31.64	239	360	P	V
	*	5300	86.86	-	-	76.48	31.88	10.14	31.64	239	360	A	V
		5400	46.76	-27.24	74	36.21	31.94	10.23	31.62	239	360	P	V
		5351.28	39.26	-14.74	54	28.79	31.91	10.19	31.63	239	360	A	V



802.11n HT20 CH 64 5320MHz	*	5320	95.54	-	-	85.13	31.89	10.16	31.64	121	293	P	H
	*	5320	89.9	-	-	79.49	31.89	10.16	31.64	121	293	A	H
		5371.84	48.33	-25.67	74	37.83	31.92	10.21	31.63	121	293	P	H
		5371.68	40.42	-13.58	54	29.92	31.92	10.21	31.63	121	293	A	H
	*	5320	93.59	-	-	83.18	31.89	10.16	31.64	239	360	P	V
	*	5320	86.56	-	-	76.15	31.89	10.16	31.64	239	360	A	V
		5455.2	48.19	-25.81	74	37.55	31.97	10.28	31.61	239	360	P	V
		5371.68	38.92	-15.08	54	28.42	31.92	10.21	31.63	239	360	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	48.44	-25.56	74	55.03	39.42	14.7	60.71	150	220	P	H
HT20		15780	47.11	-26.89	74	53.34	38.44	17.59	62.26	159	345	P	H
CH 52		10520	49.02	-24.98	74	55.61	39.42	14.7	60.71	150	220	P	V
5260MHz		15780	47.57	-26.43	74	53.8	38.44	17.59	62.26	159	345	P	V
802.11n		10600	48.46	-25.54	74	54.7	39.52	14.76	60.52	185	215	P	H
HT20		15900	46.68	-27.32	74	53.17	38.15	17.68	62.32	196	190	P	H
CH 60		10600	48.52	-25.48	74	54.76	39.52	14.76	60.52	185	215	P	V
5300MHz		15900	46.99	-27.01	74	53.48	38.15	17.68	62.32	196	190	P	V
802.11n		10640	48.2	-25.8	74	54.29	39.57	14.79	60.45	152	135	P	H
HT20		15960	46.88	-27.12	74	53.54	37.98	17.71	62.35	173	245	P	H
CH 64		10640	48.83	-25.17	74	54.92	39.57	14.79	60.45	152	135	P	V
5320MHz		15960	47.5	-26.5	74	54.16	37.98	17.71	62.35	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		5065.1	47.92	-26.08	74	37.92	31.74	9.94	31.68	151	294	P	H
		5065.1	40.71	-13.29	54	30.71	31.74	9.94	31.68	151	294	A	H
	*	5270	92.2	-	-	81.87	31.86	10.12	31.65	151	294	P	H
	*	5270	84.81	-	-	74.48	31.86	10.12	31.65	151	294	A	-
		5368.08	46.75	-27.25	74	36.25	31.92	10.21	31.63	151	294	P	H
		5374.08	39.77	-14.23	54	29.27	31.92	10.21	31.63	151	294	A	H
		5006.3	48.34	-25.66	74	38.46	31.71	9.87	31.7	262	357	P	V
		5096.95	40.73	-13.27	54	30.69	31.76	9.96	31.68	262	357	A	V
	*	5270	90.96	-	-	80.63	31.86	10.12	31.65	262	357	P	V
	*	5270	83.78	-	-	73.45	31.86	10.12	31.65	262	357	A	V
		5451.6	46.85	-27.15	74	36.21	31.97	10.28	31.61	262	357	P	V
		5446.08	39.36	-14.64	54	28.72	31.97	10.28	31.61	262	357	A	V
802.11n HT40 CH 62 5310MHz		5050.05	48.8	-25.2	74	38.85	31.73	9.91	31.69	151	288	P	H
		5082.25	40.51	-13.49	54	30.5	31.75	9.94	31.68	151	288	A	H
	*	5310	92.13	-	-	81.74	31.89	10.14	31.64	151	288	P	H
	*	5310	84.84	-	-	74.45	31.89	10.14	31.64	151	288	A	H
		5353.2	49.95	-24.05	74	39.48	31.91	10.19	31.63	151	288	P	H
		5358	43	-11.00	54	32.53	31.91	10.19	31.63	151	288	A	H
		5025.2	48.39	-25.61	74	38.47	31.72	9.89	31.69	262	357	P	V
		5076.3	40.61	-13.39	54	30.6	31.75	9.94	31.68	262	357	A	V
	*	5310	89.96	-	-	79.57	31.89	10.14	31.64	262	357	P	V
	*	5310	83.64	-	-	73.25	31.89	10.14	31.64	262	357	P	V
		5350.32	49.93	-24.07	74	39.46	31.91	10.19	31.63	262	357	A	V
		5358	41.34	-12.66	54	30.87	31.91	10.19	31.63	262	357		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	48.36	-25.64	74	54.87	39.44	14.72	60.67	150	220	P	H
HT40		15810	47.43	-26.57	74	53.74	38.36	17.61	62.28	168	345	P	H
CH 54		10540	48.92	-25.08	74	55.43	39.44	14.72	60.67	150	220	P	V
5270MHz		15810	47.24	-26.76	74	53.55	38.36	17.61	62.28	168	345	P	V
802.11n		10620	49.41	-24.59	74	55.58	39.54	14.78	60.49	150	220	P	H
HT40		15930	47.18	-26.82	74	53.75	38.07	17.7	62.34	160	100	P	H
CH 62		10620	48.46	-25.54	74	54.63	39.54	14.78	60.49	150	220	P	V
5310MHz		15930	47.3	-26.7	74	53.87	38.07	17.7	62.34	160	100	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		5447.44	48.57	-25.43	74	37.93	31.97	10.28	31.61	138	290	P	H
		5447.76	40.65	-13.35	54	30.01	31.97	10.28	31.61	138	290	A	H
	*	5500	97.16	-	-	86.44	32	10.32	31.6	138	290	P	H
	*	5500	90.61	-	-	79.89	32	10.32	31.6	138	290	A	H
		5454.96	47.5	-26.5	74	36.86	31.97	10.28	31.61	160	346	P	V
		5447.92	39.64	-14.36	54	29	31.97	10.28	31.61	160	346	A	V
	*	5500	96.2	-	-	85.48	32	10.32	31.6	160	346	P	V
	*	5500	88.71	-	-	77.99	32	10.32	31.6	160	346	A	V
802.11a CH 116 5580MHz		5452	47.71	-26.29	74	37.07	31.97	10.28	31.61	150	286	P	H
		5468.56	37.84	-16.16	54	27.17	31.98	10.3	31.61	150	286	A	H
	*	5580	97.12	-	-	86.21	32.12	10.39	31.6	150	286	P	H
	*	5580	90.14	-	-	79.23	32.12	10.39	31.6	150	286	A	H
		5759.96	46.92	-27.08	74	35.5	32.47	10.55	31.6	150	286	P	H
		5750.825	38.36	-15.64	54	26.98	32.43	10.55	31.6	150	286	A	H
		5427.76	46.66	-27.34	74	36.07	31.95	10.25	31.61	135	353	P	V
		5463.28	37.6	-16.4	54	26.93	31.98	10.3	31.61	135	353	A	V
	*	5580	93.75	-	-	82.84	32.12	10.39	31.6	135	353	P	V
	*	5580	87.24	-	-	76.33	32.12	10.39	31.6	135	353	A	V
		5733.815	46.14	-27.86	74	34.82	32.4	10.52	31.6	135	353	P	V
		5731.295	38.27	-15.73	54	26.95	32.4	10.52	31.6	135	353	A	V



802.11a CH 140 5700MHz	*	5700	96.67	-	-	85.43	32.34	10.5	31.6	150	286	P	H
	*	5700	90.87	-	-	79.63	32.34	10.5	31.6	150	286	A	H
		5725.64	52.25	-21.75	74	40.93	32.4	10.52	31.6	150	286	P	H
		5725	42.79	-11.21	54	31.47	32.4	10.52	31.6	150	286	A	H
	*	5700	93.3	-	-	82.06	32.34	10.5	31.6	136	353	P	V
	*	5700	87.57	-	-	76.33	32.34	10.5	31.6	136	353	A	V
		5725	51.32	-22.68	74	40	32.4	10.52	31.6	136	353	P	V
		5725	41.5	-12.5	54	30.18	32.4	10.52	31.6	136	353	A	V
Remark	<ol style="list-style-type: none">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	49.02	-24.98	74	53.63	40	15.05	59.66	163	230	P	H
		16500	47.98	-26.02	74	52.43	39	17.81	61.26	178	296	P	H
		11000	48.7	-25.3	74	53.31	40	15.05	59.66	163	230	P	V
		16500	47.71	-26.29	74	52.16	39	17.81	61.26	178	296	P	V
802.11a CH 116 5580MHz		11160	48.88	-25.12	74	53.38	40.03	15.12	59.65	170	200	P	H
		16740	48.98	-25.02	74	52.07	39.77	17.83	60.69	156	350	P	H
		11160	49.62	-24.38	74	54.12	40.03	15.12	59.65	170	200	P	V
		16740	49.63	-24.37	74	52.72	39.77	17.83	60.69	156	350	P	V
802.11a CH 140 5700MHz		11400	49.52	-24.48	74	53.85	40.08	15.23	59.64	157	285	P	H
		17100	50.54	-23.46	74	51.68	41.02	17.92	60.08	165	246	P	H
		11400	49.65	-24.35	74	53.98	40.08	15.23	59.64	157	285	P	V
		17100	50.17	-23.83	74	51.31	41.02	17.92	60.08	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)
802.11n HT20 CH 100 5500MHz		5447.44	48.66	-25.34	74	38.02	31.97	10.28	31.61	153	294	P	H
		5448.24	41.73	-12.27	54	31.09	31.97	10.28	31.61	153	294	A	H
	*	5500	97.53	-	-	86.81	32	10.32	31.6	153	294	P	H
	*	5500	89.73	-	-	79.01	32	10.32	31.6	153	294	A	H
		5432.24	47.22	-26.78	74	36.62	31.96	10.25	31.61	153	353	P	V
		5448.4	39.84	-14.16	54	29.2	31.97	10.28	31.61	153	353	A	V
	*	5500	94.69	-	-	83.97	32	10.32	31.6	153	353	P	V
	*	5500	87.3	-	-	76.58	32	10.32	31.6	153	353	A	V
802.11n HT20 CH 116 5580MHz		5433.52	47.35	-26.65	74	36.75	31.96	10.25	31.61	145	291	P	H
		5463.28	38.78	-15.22	54	28.11	31.98	10.3	31.61	145	291	A	H
	*	5580	97.48	-	-	86.57	32.12	10.39	31.6	145	291	P	H
	*	5580	90.09	-	-	79.18	32.12	10.39	31.6	145	291	A	H
		5762.165	49.26	-24.74	74	37.84	32.47	10.55	31.6	145	291	P	H
		5762.165	40.09	-13.91	54	28.67	32.47	10.55	31.6	145	291	A	H
		5451.76	47.36	-26.64	74	36.72	31.97	10.28	31.61	153	353	P	V
		5461.36	38.55	-15.45	54	27.91	31.97	10.28	31.61	153	353	A	V
	*	5580	95.09	-	-	84.18	32.12	10.39	31.6	153	353	P	V
	*	5580	88.05	-	-	77.14	32.12	10.39	31.6	153	353	A	V
		5757.125	47.98	-26.02	74	36.56	32.47	10.55	31.6	153	353	P	V
		5752.085	39.93	-14.07	54	28.51	32.47	10.55	31.6	153	353	A	V



802.11n HT20 CH 140 5700MHz	*	5700	98.19	-	-	86.95	32.34	10.5	31.6	152	287	P	H
	*	5700	91.09	-	-	79.85	32.34	10.5	31.6	152	287	A	H
		5726.12	55.2	-18.8	74	43.88	32.4	10.52	31.6	152	287	P	H
		5725.08	46.8	-7.2	54	35.48	32.4	10.52	31.6	152	287	A	H
	*	5700	95.4	-	-	84.16	32.34	10.5	31.6	163	353	P	V
	*	5700	87.74	-	-	76.5	32.34	10.5	31.6	163	353	A	V
		5725.08	56.92	-17.08	74	45.6	32.4	10.52	31.6	163	353	P	V
		5725	45.06	-8.94	54	33.74	32.4	10.52	31.6	163	353	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - 5470~5725MHz
WIFI 802.11n 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	49.02	-24.98	74	53.63	40	15.05	59.66	163	230	P	H
HT20		16500	47.96	-26.04	74	52.41	39	17.81	61.26	178	296	P	H
CH 100		11000	49.34	-24.66	74	53.95	40	15.05	59.66	163	230	P	V
5500MHz		16500	47.33	-26.67	74	51.78	39	17.81	61.26	178	296	P	V
802.11n		11160	49.71	-24.29	74	54.21	40.03	15.12	59.65	170	200	P	H
HT20		16740	49.16	-24.84	74	52.25	39.77	17.83	60.69	156	350	P	H
CH 116		11160	49.21	-24.79	74	53.71	40.03	15.12	59.65	170	200	P	V
5580MHz		16740	48.07	-25.93	74	51.16	39.77	17.83	60.69	156	350	P	V
802.11n		11400	50.52	-23.48	74	54.85	40.08	15.23	59.64	157	285	P	H
HT20		17100	50.23	-23.77	74	51.37	41.02	17.92	60.08	165	246	P	H
CH 140		11400	49.88	-24.12	74	54.21	40.08	15.23	59.64	157	285	P	V
5700MHz		17100	50.28	-23.72	74	51.42	41.02	17.92	60.08	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)
802.11n HT40 CH 102 5510MHz		5469.76	50.7	-23.3	74	40.03	31.98	10.3	31.61	152	292	P	H
		5469.28	44.18	-9.82	54	33.51	31.98	10.3	31.61	152	292	A	H
	*	5510	93.42	-	-	82.7	32	10.32	31.6	152	292	P	H
	*	5510	86.3	-	-	75.58	32	10.32	31.6	152	292	A	H
		5746.73	47.37	-26.63	74	35.99	32.43	10.55	31.6	152	292	P	H
		5756.81	40.84	-13.16	54	29.42	32.47	10.55	31.6	152	292	A	H
		5464.72	48.35	-25.65	74	37.68	31.98	10.3	31.61	226	360	P	V
		5468.56	41.37	-12.63	54	30.7	31.98	10.3	31.61	226	360	A	V
	*	5510	88.92	-	-	78.2	32	10.32	31.6	226	360	P	V
	*	5510	81.91	-	-	71.19	32	10.32	31.6	226	360	A	V
		5731.61	47.32	-26.68	74	36	32.4	10.52	31.6	226	360	P	V
		5734.13	40.67	-13.33	54	29.35	32.4	10.52	31.6	226	360	A	V
802.11n HT40 CH 110 5550MHz		5415.28	47.03	-26.97	74	36.45	31.95	10.25	31.62	153	292	P	H
		5470	39.72	-14.28	54	29.05	31.98	10.3	31.61	153	292	A	H
	*	5550	94.16	-	-	83.31	32.09	10.36	31.6	153	292	P	H
	*	5550	86.34	-	-	75.49	32.09	10.36	31.6	153	292	A	H
		5755.86	48.06	-25.94	74	36.64	32.47	10.55	31.6	153	292	P	H
		5746.73	40.52	-13.48	54	29.14	32.43	10.55	31.6	153	292	A	H
		5423.44	46.99	-27.01	74	36.41	31.95	10.25	31.62	226	360	P	V
		5467.36	39.49	-14.51	54	28.82	31.98	10.3	31.61	226	360	A	V
	*	5550	89.67	-	-	78.82	32.09	10.36	31.6	226	360	P	V
	*	5550	82.13	-	-	71.28	32.09	10.36	31.6	226	360	A	V
		5759.96	48.13	-25.87	74	36.71	32.47	10.55	31.6	226	360	P	V
		5758.38	40.54	-13.46	54	29.12	32.47	10.55	31.6	226	360	A	V



802.11n HT40 CH 134 5670MHz		5402.85	46.67	-27.33	74	36.12	31.94	10.23	31.62	150	287	P	H
		5455.7	39.29	-14.71	54	28.65	31.97	10.28	31.61	150	287	A	H
	*	5670	94.13	-	-	82.94	32.31	10.48	31.6	150	287	P	H
	*	5670	86.98	-	-	75.79	32.31	10.48	31.6	150	287	A	H
		5728.6	49.04	-24.96	74	37.72	32.4	10.52	31.6	150	287	P	H
		5726.15	41.34	-12.66	54	30.02	32.4	10.52	31.6	150	287	A	H
		5406.35	46.64	-27.36	74	36.09	31.94	10.23	31.62	226	337	P	V
		5448.35	39.24	-14.76	54	28.6	31.97	10.28	31.61	226	337	A	V
	*	5670	91.87	-	-	80.68	32.31	10.48	31.6	226	337	P	V
	*	5670	84.29	-	-	73.1	32.31	10.48	31.6	226	337	A	V
		5725.45	48.14	-25.86	74	36.82	32.4	10.52	31.6	226	337	P	V
		5732.8	40.66	-13.34	54	29.34	32.4	10.52	31.6	226	337	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 3 - 5470~5725MHz
WIFI 802.11n 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	50.65	-23.35	74	55.25	40	15.06	59.66	170	230	P	H
HT40		16530	47.93	-26.07	74	52.19	39.11	17.81	61.18	160	300	P	H
CH 102		11020	49.52	-24.48	74	54.12	40	15.06	59.66	170	230	P	V
5510MHz		16530	48.95	-25.05	74	53.21	39.11	17.81	61.18	160	300	P	V
802.11n		11100	49.58	-24.42	74	54.11	40.02	15.1	59.65	150	200	P	H
HT40		16650	48.54	-25.46	74	52.11	39.5	17.82	60.89	180	350	P	H
CH 110		11100	49.58	-24.42	74	54.11	40.02	15.1	59.65	150	200	P	V
5550MHz		16650	48.61	-25.39	74	52.18	39.5	17.82	60.89	180	350	P	V
802.11n		11340	48.68	-25.32	74	53.04	40.07	15.21	59.64	200	360	P	H
HT40		17010	50.63	-23.37	74	52.17	40.67	17.86	60.07	200	360	P	H
CH 134		11340	49.54	-24.46	74	53.9	40.07	15.21	59.64	200	360	P	V
5670MHz		17010	49.9	-24.1	74	51.44	40.67	17.86	60.07	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 802.11n HT20 (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 LF		30	21.51	-18.49	40	29.25	24.3	0.56	32.6			P	H
		147.37	31.03	-12.47	43.5	45.1	16.87	1.26	32.2	105	126	P	H
		255.04	29.46	-16.54	46	40.47	19.4	1.68	32.09			P	H
		303.54	31.82	-14.18	46	42.68	19.3	1.83	31.99			P	H
		628.49	27.16	-18.84	46	31.22	24.81	2.73	31.6			P	H
		874.87	28.57	-17.43	46	30.46	26.57	3.26	31.72			P	H
		30.97	28.03	-11.97	40	36.35	23.71	0.57	32.6			P	V
		67.83	29.21	-10.79	40	48.25	12.62	0.84	32.5	124	24	P	V
		157.07	31.96	-11.54	43.5	46.49	16.2	1.31	32.04			P	V
		315.18	29.87	-16.13	46	40.38	19.59	1.87	31.97			P	V
		449.04	26.91	-19.09	46	33.57	22.58	2.26	31.5			P	V
		722.58	29.04	-16.96	46	32.47	25.35	2.91	31.69			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		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)

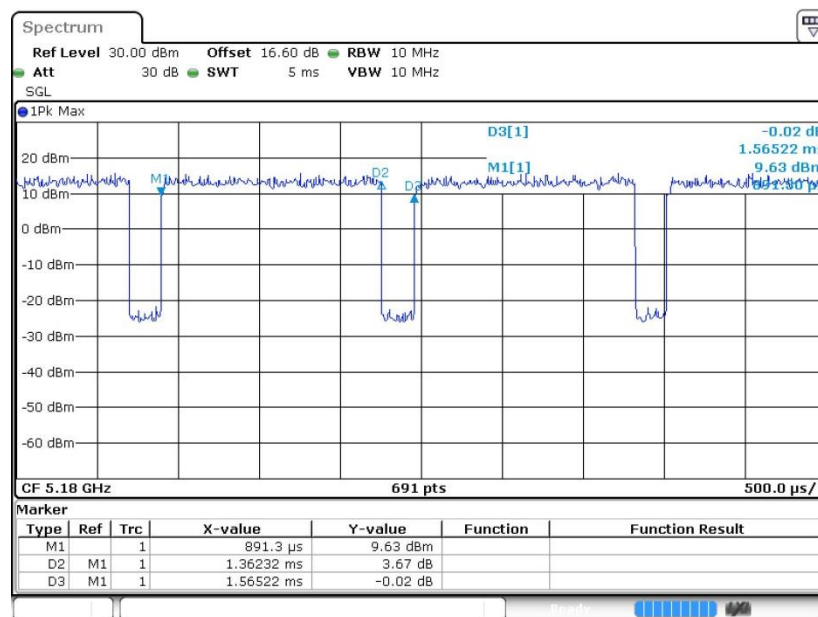
= -10.46(dB)

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

Appendix D. Duty Cycle Plots

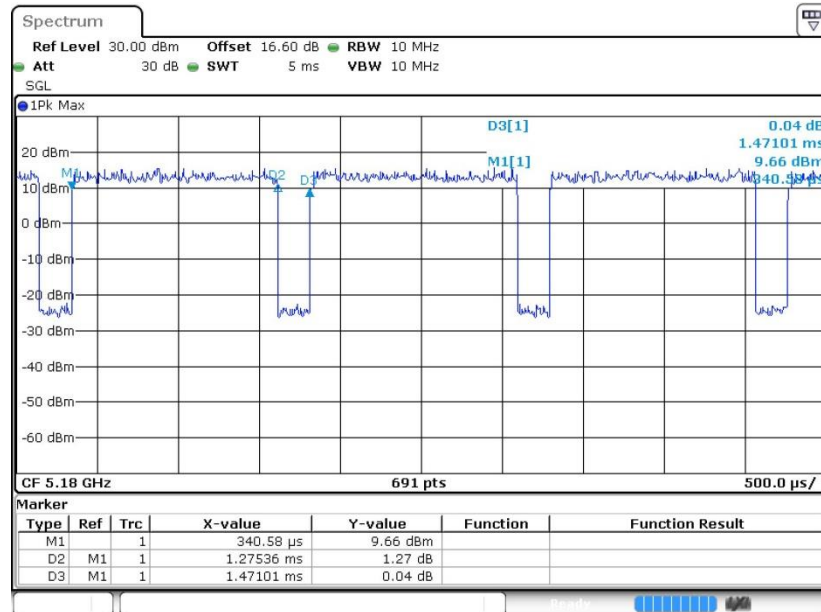
Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	87.04	1.362	0.734	1KHz
802.11n HT20	86.70	1.275	0.784	1KHz
802.11n HT40	75.56	0.632	1.583	3KHz

802.11a



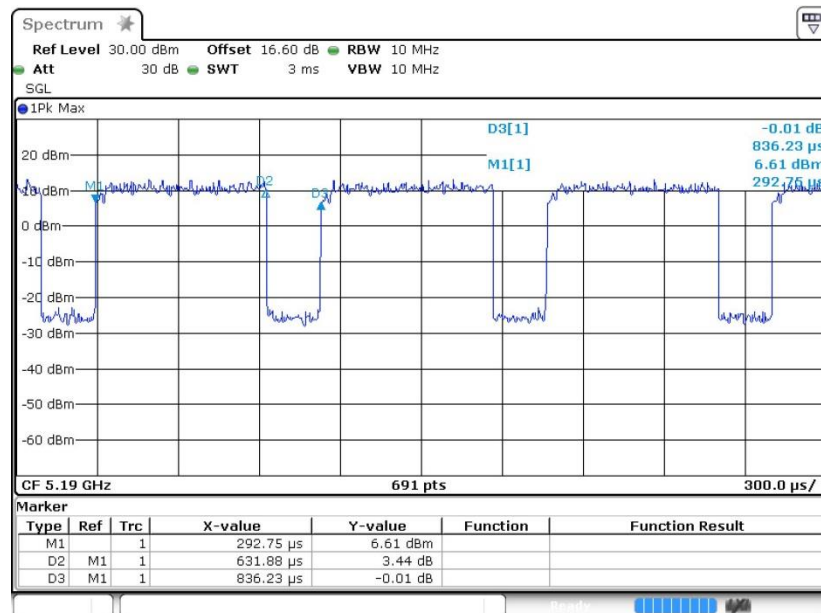
Date: 6 NOV 2018 13:09:58

802.11n HT20



Date: 6.NOV.2018 13:11:31

802.11n HT40



Date: 6.NOV.2018 13:14:18