



FCC RF Test Report

APPLICANT : PAX Technology Limited
EQUIPMENT : Smart Tablet
BRAND NAME : PAX
MODEL NAME : Aries8
FCC ID : V5PAR8
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure

The product was installed a WLAN module during the test (Brand Name: MeiG Smart Technology Co., Ltd, Model Name: SLM757A, FCC ID: 2APJ4-SLM757A).

The product was received on Dec. 06, 2018 and testing was completed on Feb. 25, 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.

Approved by: Eric Shih / Manager



Sporton International (Shenzhen) Inc.

***1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan Shenzhen City
Guangdong Province 518055 China***



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR8D0615E	Rev. 01	Initial issue of report	Apr. 09, 2019

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	2.1049 & 15.403(i)	26dB & 99% Bandwidth	-	Pass	1
3.2	15.407(a)	Maximum Conducted Output Power	≤ 24 dBm	Pass	-
3.3	15.407(a)	Power Spectral Density	≤ 11 dBm	Pass	1
3.4	15.407(b)	Unwanted Emissions	15.407(b) & 15.209(a)	Pass	Under limit 1.55 dB at 5725.080 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 7.33 dB at 13.700 MHz
3.6	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.7	15.203 & 15.407(a)	Antenna Requirement	N/A	Pass	-
Remark 1: Test items are performed on module RF report which can be referred to Sporton report number FR891203D, except the straddle channels are new testing.					



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	Smart Tablet
Brand Name	PAX
Model Name	Aries8
FCC ID	V5PAR8
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 Bluetooth BR / EDR / LE NFC/GNSS
IMEI Code	Conduction: 868621028940611/868621028939233 Radiation: 868621028940975/868621028940983 Conducted: 868621028942211/868621028932238
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 : 10.88 dBm / 0.0122 W 802.11n HT20 : 10.85 dBm / 0.0122 W 802.11n HT40 : 9.55 dBm / 0.0090 W <5260 MHz ~ 5320 MHz> 802.11a : 10.61 dBm / 0.0115 W 802.11n HT20 : 10.69 dBm / 0.0117 W 802.11n HT40 : 9.82 dBm / 0.0096 W <5500 MHz ~ 5720 MHz > 802.11a : 10.59 dBm / 0.0115 W 802.11n HT20 : 10.75 dBm / 0.0119 W 802.11n HT40 : 9.89 dBm / 0.0097 W
Antenna Gain / Gain	<5180 MHz ~ 5240 MHz> FPC Antenna with gain 2.00 dBi <5260 MHz ~ 5320 MHz> FPC Antenna with gain 2.00 dBi <5500 MHz ~ 5720 MHz> FPC Antenna with gain 2.00 dBi
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

Note: WLAN operation in 5600 MHz ~ 5650 MHz is notched.

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.
	03CH03-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.

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)
5260-5320 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)
Straddle Channel	142*	5710	144	5720

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

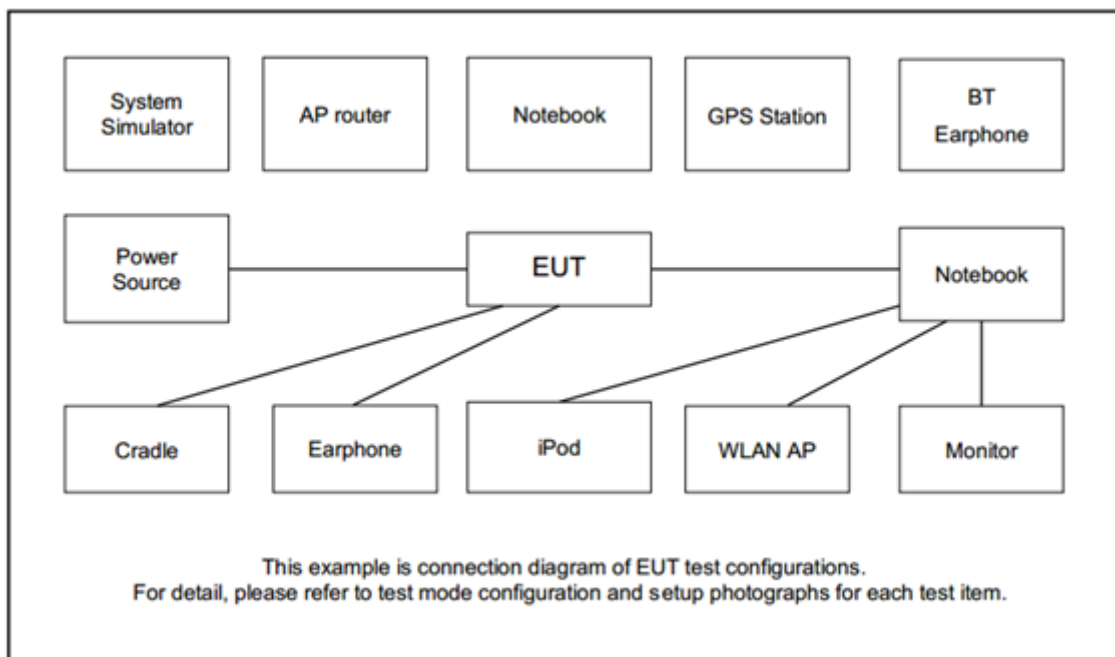
Test Cases	
AC Conducted Emission	Mode 1 : WCDMA Band II Idle + Bluetooth Link + WLAN Link (5G) + Battery + USB cable(Charging from adapter) + Earphone
Remark: For Radiated Test Cases, The tests were performed with Adapter, Battery and Earphone	

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

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.	Earphone	Apple	MC690ZP/A	N/A	Shielded, 1.0 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 WLAN AP under large package sizes transmission.

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.

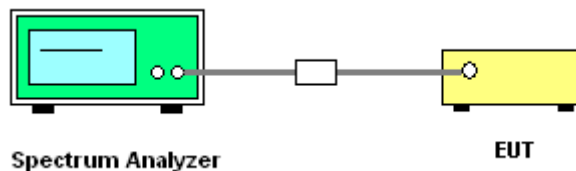
3.1.2 Measuring Instruments

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**

Only Straddle channel is new testing, all the other test results can be referred to Module report.

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	6Mbps	1	144	5720	21.13	29.97	23.98	30.00	23.98	
HT20	MCS0	1	144	5720	21.68	32.32	23.98	30.00	23.98	
HT40	MCS0	1	142	5710	37.56	49.54	23.98	30.00	23.98	

3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

<FCC 14-30 CFR 15.407>

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

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

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

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

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

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

3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

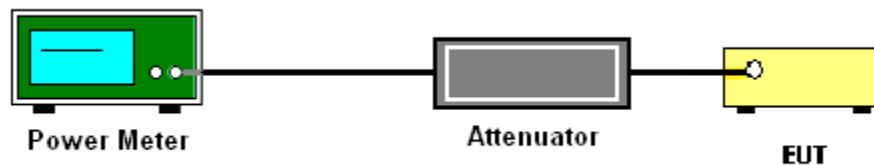
The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

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

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

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

3.2.4 Test Setup





3.2.5 Test Result of Maximum Conducted Output Power

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	10.88	24.00	2.00	Pass
11a	6Mbps	1	44	5220	0.60	10.36	24.00	2.00	Pass
11a	6Mbps	1	48	5240	0.60	10.45	24.00	2.00	Pass
HT20	MCS0	1	36	5180	0.63	10.85	24.00	2.00	Pass
HT20	MCS0	1	44	5220	0.63	10.42	24.00	2.00	Pass
HT20	MCS0	1	48	5240	0.63	10.54	24.00	2.00	Pass
HT40	MCS0	1	38	5190	1.18	9.29	24.00	2.00	Pass
HT40	MCS0	1	46	5230	1.18	9.55	24.00	2.00	Pass

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	10.61	23.98	2.00	26.99	Pass
11a	6M bps	1	60	5300	0.60	10.33	23.98	2.00	26.99	Pass
11a	6M bps	1	64	5320	0.60	10.55	23.98	2.00	26.99	Pass
HT20	MCS 0	1	52	5260	0.63	10.64	23.98	2.00	26.99	Pass
HT20	MCS 0	1	60	5300	0.63	10.56	23.98	2.00	26.99	Pass
HT20	MCS 0	1	64	5320	0.63	10.69	23.98	2.00	26.99	Pass
HT40	MCS 0	1	54	5270	1.18	9.82	23.98	2.00	26.99	Pass
HT40	MCS 0	1	62	5310	1.18	9.59	23.98	2.00	26.99	Pass



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	10.37	23.98	2.00	26.99	Pass
11a	6M bps	1	116	5580	0.60	10.25	23.98	2.00	26.99	Pass
11a	6M bps	1	140	5700	0.60	10.59	23.98	2.00	26.99	Pass
11a	6M bps	1	144	5720	0.60	10.47	23.98	2.00	26.99	Pass
HT20	MCS 0	1	100	5500	0.63	10.60	23.98	2.00	26.99	Pass
HT20	MCS 0	1	116	5580	0.63	10.36	23.98	2.00	26.99	Pass
HT20	MCS 0	1	140	5700	0.63	10.75	23.98	2.00	26.99	Pass
HT20	MCS 0	1	144	5720	0.63	10.65	23.98	2.00	26.99	Pass
HT40	MCS 0	1	102	5510	1.18	9.68	23.98	2.00	26.99	Pass
HT40	MCS 0	1	110	5550	1.18	9.89	23.98	2.00	26.99	Pass
HT40	MCS 0	1	134	5670	1.18	9.23	23.98	2.00	26.99	Pass
HT40	MCS 0	1	142	5710	1.18	9.21	23.98	2.00	26.99	Pass

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.

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.

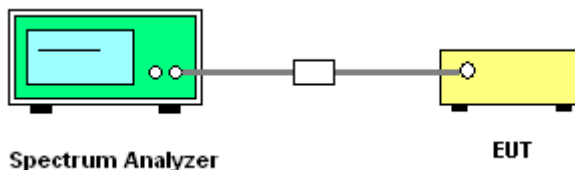
Section F) Maximum power spectral density.

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

Only Straddle channel is new testing, all the other test results can be referred to Module report.

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	6Mbps	1	144	5720	0.60	-1.61	11.00	2.00	Pass
HT20	MCS0	1	144	5720	0.63	-1.36	11.00	2.00	Pass
HT40	MCS0	1	142	5710	1.18	-6.25	11.00	2.00	Pass

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) ANSI C63.10-2013 clause 12.7.3 note 97

As specified by regulatory requirements, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit. However, an out-of-band emission that complies with both the average and peak general regulatory limits is not required to satisfy the peak emission limit.

3.4.2 Measuring Instruments

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

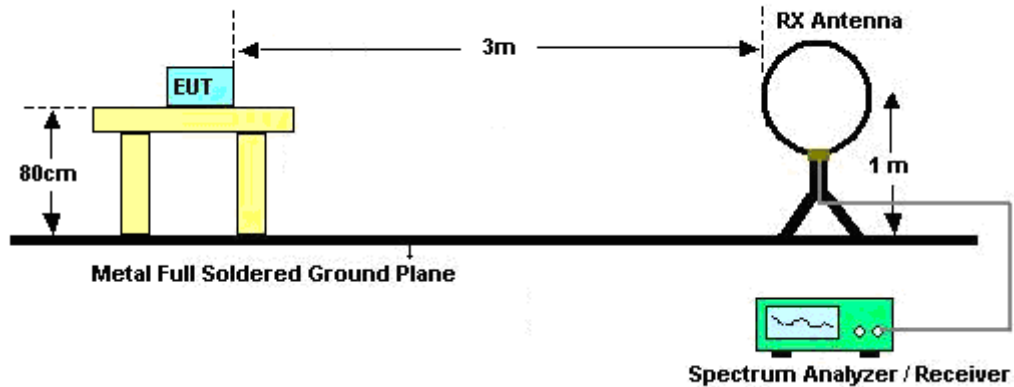


3.4.3 Test Procedures

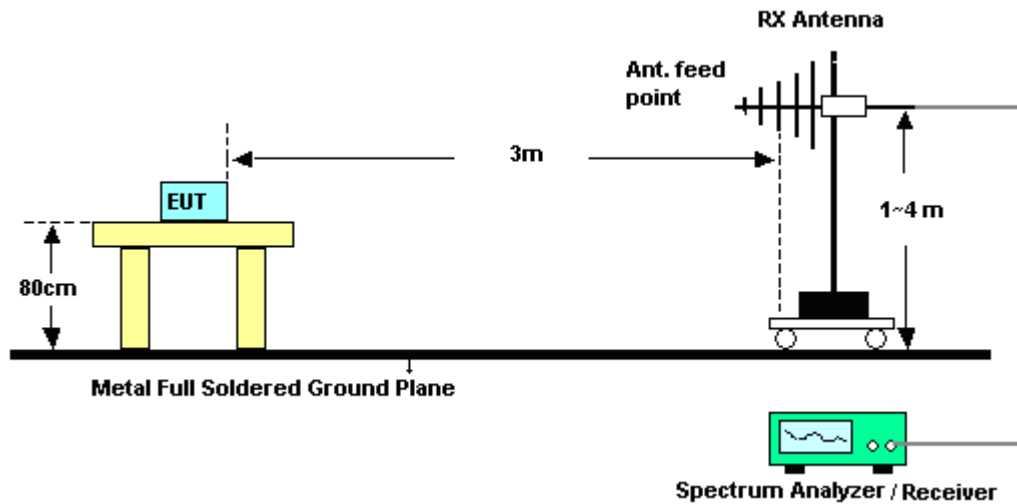
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
Section G) Unwanted emissions measurement.
 - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold
 - (2) Procedure for Peak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

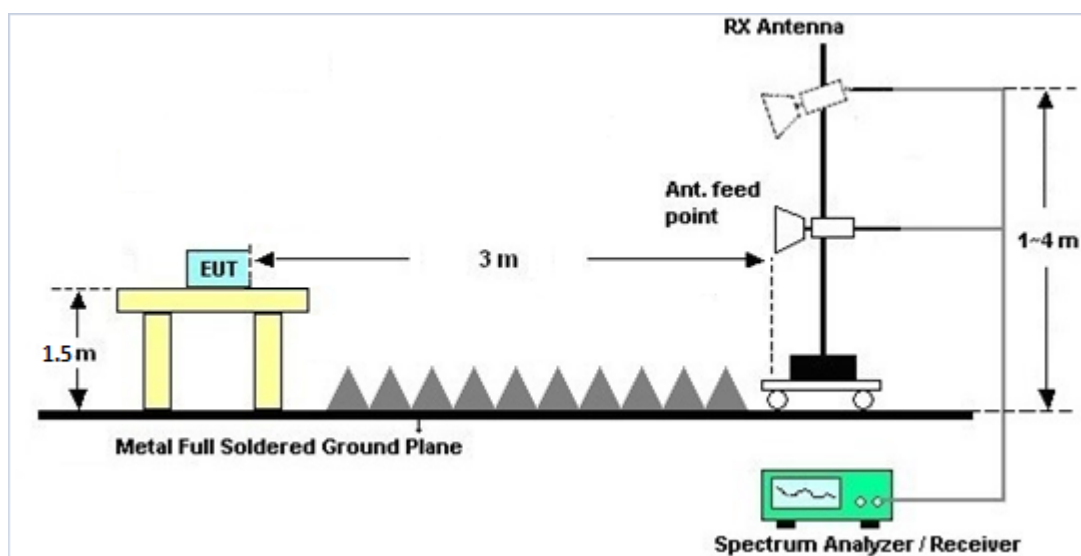
For radiated emissions below 30MHz



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 B.

3.4.7 Duty Cycle

Please refer to Appendix C.

3.4.8 Test Result of Radiated Spurious Emissions (30MHz ~ 10th Harmonic)

Please refer to Appendix B.

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.

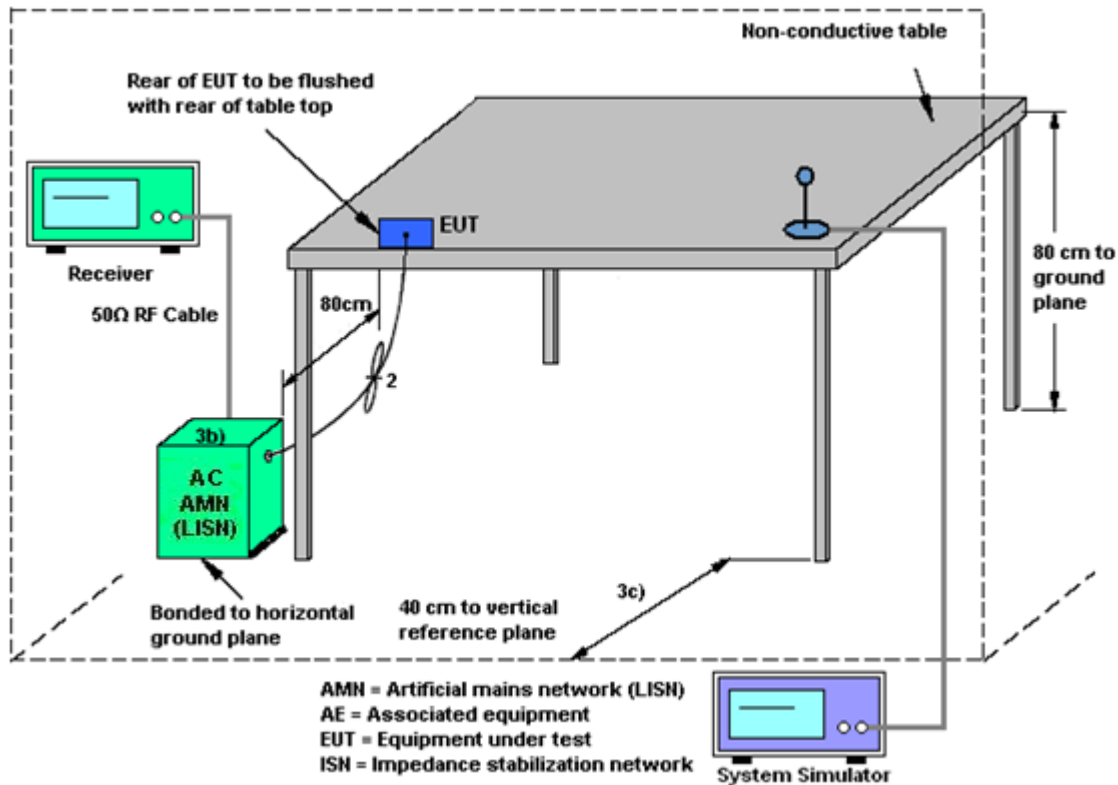
3.5.2 Measuring Instruments

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 A.

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
Pulse Power Sensor	Anritsu	MA2411B	1207253	30MHz~40GHz	Dec. 22, 2018	Feb. 25, 2019	Dec. 21, 2019	Conducted (TH01-SZ)
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 19, 2018	Feb. 25, 2019	Apr. 18, 2019	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	50MHz Bandwidth	Dec. 22, 2018	Feb. 25, 2019	Dec. 21, 2019	Conducted (TH01-SZ)
EMI Test Receiver&SA	KEYSIGHT	N9038A	MY54450083	20Hz~8.4GHz	Apr. 19, 2018	Feb. 25, 2019	Apr. 18, 2019	Radiation (03CH03-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150246	10Hz~44GHz;	Apr. 19, 2018	Feb. 25, 2019	Apr. 18, 2019	Radiation (03CH03-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	May 14, 2018	Feb. 25, 2019	May 13, 2019	Radiation (03CH03-SZ)
Bilog Antenna	TeseQ	CBL6112D	35408	30MHz-2GHz	Apr. 19, 2018	Feb. 25, 2019	Apr. 18, 2019	Radiation (03CH03-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1355	1GHz~18GHz	Mar. 29, 2018	Feb. 25, 2019	Mar. 28, 2019	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 30, 2018	Feb. 25, 2019	Jul. 29, 2019	Radiation (03CH03-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Mar. 30, 2018	Feb. 25, 2019	Mar. 29, 2019	Radiation (03CH03-SZ)
Amplifier	Burgeon	BPA-530	102210	0.01Hz~3000MHz	Oct. 18, 2018	Feb. 25, 2019	Oct. 17, 2019	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1943528	1GHz~18GHz	Oct. 18, 2018	Feb. 25, 2019	Oct. 17, 2019	Radiation (03CH03-SZ)
Amplifier	Agilent Technologies	83017A	MY39501302	500MHz~26.5GHz	Dec. 23, 2018	Feb. 25, 2019	Dec. 22, 2019	Radiation (03CH03-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	NCR	Feb. 25, 2019	NCR	Radiation (03CH03-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Feb. 25, 2019	NCR	Radiation (03CH03-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Feb. 25, 2019	NCR	Radiation (03CH03-SZ)
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Dec. 23, 2018	Dec. 28, 2018	Dec. 22, 2019	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103912	9kHz~30MHz	Oct. 18, 2018	Dec. 28, 2018	Oct. 17, 2019	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Dec. 23, 2018	Dec. 28, 2018	Dec. 22, 2019	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Jul. 18, 2018	Dec. 28, 2018	Jul. 17, 2019	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% ($U = 2Uc(y)$)	2.6 dB
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

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

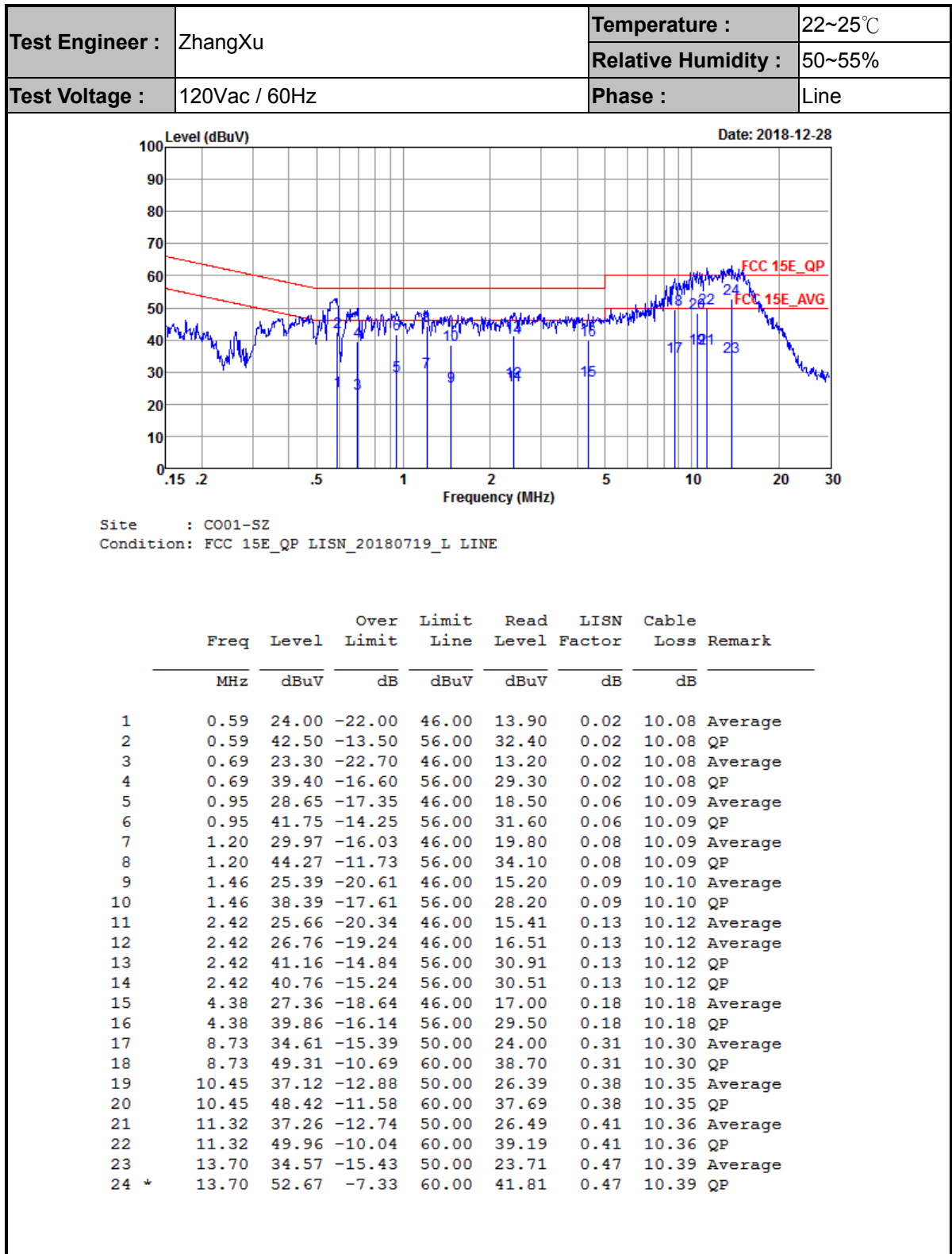
Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.8 dB
---	--------

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.6 dB
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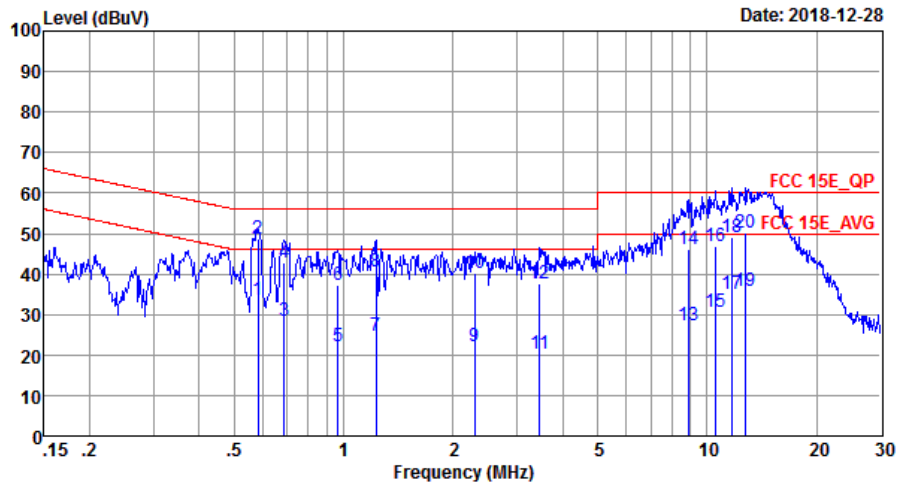


Appendix A. AC Conducted Emission Test Results





Test Engineer :	ZhangXu	Temperature :	22~25℃
		Relative Humidity :	50~55%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral



Site : C001-SZ

Condition: FCC 15E_QP LISN_20180719_N NEUTRAL

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.58	33.70	-12.30	46.00	23.60	0.02	10.08	Average
2 *	0.58	48.60	-7.40	56.00	38.50	0.02	10.08	QP
3	0.69	28.30	-17.70	46.00	18.20	0.02	10.08	Average
4	0.69	42.80	-13.20	56.00	32.70	0.02	10.08	QP
5	0.96	22.24	-23.76	46.00	12.10	0.05	10.09	Average
6	0.96	37.24	-18.76	56.00	27.10	0.05	10.09	QP
7	1.23	24.54	-21.46	46.00	14.40	0.05	10.09	Average
8	1.23	40.64	-15.36	56.00	30.50	0.05	10.09	QP
9	2.30	22.26	-23.74	46.00	12.10	0.04	10.12	Average
10	2.30	40.36	-15.64	56.00	30.20	0.04	10.12	QP
11	3.45	20.29	-25.71	46.00	10.10	0.04	10.15	Average
12	3.45	37.59	-18.41	56.00	27.40	0.04	10.15	QP
13	8.87	27.24	-22.76	50.00	16.80	0.13	10.31	Average
14	8.87	46.04	-13.96	60.00	35.60	0.13	10.31	QP
15	10.51	30.53	-19.47	50.00	20.00	0.18	10.35	Average
16	10.51	46.93	-13.07	60.00	36.40	0.18	10.35	QP
17	11.74	34.99	-15.01	50.00	24.41	0.22	10.36	Average
18	11.74	49.19	-10.81	60.00	38.61	0.22	10.36	QP
19	12.78	35.64	-14.36	50.00	25.00	0.26	10.38	Average
20	12.78	50.04	-9.96	60.00	39.40	0.26	10.38	QP



Appendix B. Radiated Spurious Emission

Test Engineer :	Zhongmin Zhang	Temperature :	23~25°C
		Relative Humidity :	48~52%



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		5149.76	58.06	-15.94	74	50.01	31.36	8.77	32.08	138	41	P	H
		5149.76	47.74	-6.26	54	39.69	31.36	8.77	32.08	138	41	A	H
	*	5180	101.62	-	-	93.53	31.38	8.81	32.1	138	41	P	H
	*	5180	94.56	-	-	86.47	31.38	8.81	32.1	138	41	A	H
		5149.5	56.85	-17.15	74	48.8	31.36	8.77	32.08	140	38	P	V
		5150	44.7	-9.3	54	36.65	31.36	8.77	32.08	140	38	A	V
	*	5180	96.87	-	-	88.78	31.38	8.81	32.1	140	38	P	V
	*	5180	90.83	-	-	85.47	31.38	8.81	32.1	140	38	A	V
802.11a CH 44 5220MHz		5082.94	46.5	-27.5	74	38.46	31.33	8.74	32.03	122	40	P	H
		5120.64	36.94	-17.06	54	28.88	31.35	8.77	32.06	122	40	A	H
	*	5220	99.52	-	-	91.39	31.4	8.84	32.11	122	40	P	H
	*	5220	92.68	-	-	84.55	31.4	8.84	32.11	122	40	A	H
		5409.36	47.33	-26.67	74	39.03	31.49	9.06	32.25	122	40	P	H
		5416.56	37.23	-16.77	54	28.93	31.49	9.06	32.25	122	40	A	H
		5083.46	45.25	-28.75	74	37.21	31.33	8.74	32.03	127	38	P	V
		5034.58	36.84	-17.16	54	28.86	31.31	8.67	32	127	38	A	V
	*	5220	93.54	-	-	85.41	31.4	8.84	32.11	127	38	P	V
	*	5220	87.87	-	-	79.74	31.4	8.84	32.11	127	38	A	V
		5384.88	45.62	-28.38	74	37.35	31.48	9.02	32.23	127	38	P	V
		5450.16	36.81	-17.19	54	28.49	31.51	9.09	32.28	127	38	A	V



802.11a CH 48 5240MHz		5048.36	46.68	-27.32	74	38.67	31.32	8.7	32.01	194	65	P	H
		5081.64	36.74	-17.26	54	28.7	31.33	8.74	32.03	194	65	A	H
	*	5240	99.16	-	-	91	31.41	8.88	32.13	194	65	P	H
	*	5240	92.94	-	-	84.78	31.41	8.88	32.13	194	65	A	H
		5416.56	45.83	-28.17	74	37.53	31.49	9.06	32.25	194	65	P	H
		5437.44	36.98	-17.02	54	28.66	31.5	9.09	32.27	194	65	A	H
		5100.1	46.08	-27.92	74	38.05	31.34	8.74	32.05	391	4	P	V
		5078.78	36.62	-17.38	54	28.58	31.33	8.74	32.03	391	4	A	V
	*	5240	94.52	-	-	86.36	31.41	8.88	32.13	391	4	P	V
	*	5240	88.49	-	-	80.33	31.41	8.88	32.13	391	4	A	V
		5395.44	45.26	-28.74	74	36.94	31.49	9.06	32.23	391	4	P	V
		5412.96	36.78	-17.22	54	28.48	31.49	9.06	32.25	391	4	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	46.59	-27.41	74	54.11	39.84	11.63	58.99	152	260	P	H
		15540	49.12	-24.88	74	55.3	38.85	13.9	58.93	189	238	P	H
		10360	47.44	-26.56	74	54.96	39.84	11.63	58.99	152	260	P	V
		15540	48.52	-25.48	74	54.7	38.85	13.9	58.93	189	238	P	V
802.11a CH 44 5220MHz		10440	45.21	-28.79	74	52.54	39.93	11.66	58.92	150	230	P	H
		15660	50.5	-23.5	74	57.28	38.32	13.96	59.06	160	225	P	H
		10440	45.47	-28.53	74	52.8	39.93	11.66	58.92	150	230	P	V
		15660	50.16	-23.84	74	56.94	38.32	13.96	59.06	160	225	P	V
802.11a CH 48 5240MHz		10480	42.45	-31.55	74	49.65	39.99	11.67	58.86	150	289	P	H
		15720	47.94	-26.06	74	55.07	38.01	13.98	59.12	150	291	P	H
		10480	42.44	-31.56	74	49.64	39.99	11.67	58.86	150	289	P	V
		15720	47.36	-26.64	74	54.49	38.01	13.98	59.12	150	291	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz

WIFI 802.11n 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		5149.5	58.96	-15.04	74	50.91	31.36	8.77	32.08	137	39	P	H
		5150	47.94	-6.06	54	39.89	31.36	8.77	32.08	137	39	A	H
	*	5180	100.35	-	-	92.26	31.38	8.81	32.1	137	39	P	H
	*	5180	93.76	-	-	85.67	31.38	8.81	32.1	137	39	A	H
		5149.76	54.1	-19.9	74	46.05	31.36	8.77	32.08	154	37	P	V
		5150	45.7	-8.3	54	37.65	31.36	8.77	32.08	154	37	A	V
	*	5180	96.48	-	-	88.39	31.38	8.81	32.1	154	37	P	V
	*	5180	90.14	-	-	82.05	31.38	8.81	32.1	154	37	A	V
802.11n HT20 CH 44 5220MHz		5107.64	46.79	-27.21	74	38.75	31.35	8.74	32.05	126	39	P	H
		5055.12	37.06	-16.94	54	29.05	31.32	8.7	32.01	126	39	A	H
	*	5220	98.67	-	-	90.54	31.4	8.84	32.11	126	39	P	H
	*	5220	92.25	-	-	84.12	31.4	8.84	32.11	126	39	A	H
		5454.24	45.83	-28.17	74	37.51	31.51	9.09	32.28	126	39	P	H
		5411.04	37.19	-16.81	54	28.89	31.49	9.06	32.25	126	39	A	H
		5133.12	46.8	-27.2	74	38.73	31.36	8.77	32.06	143	38	P	V
		5041.08	36.98	-17.02	54	28.96	31.32	8.7	32	143	38	A	V
	*	5220	94.45	-	-	86.32	31.4	8.84	32.11	143	38	P	V
	*	5220	92.45	-	-	84.32	31.4	8.84	32.11	143	38	A	V
		5401.44	47.23	-26.77	74	38.93	31.49	9.06	32.25	143	38	P	V
		5453.52	36.93	-17.07	54	28.61	31.51	9.09	32.28	143	38	A	V



802.11n HT20 CH 48 5240MHz		5118.82	46.88	-27.12	74	38.82	31.35	8.77	32.06	117	39	P	H
		5145.6	36.9	-17.1	54	28.85	31.36	8.77	32.08	117	39	A	H
	*	5240	98.78	-	-	90.62	31.41	8.88	32.13	117	39	P	H
	*	5240	92.22	-	-	84.06	31.41	8.88	32.13	117	39	A	H
		5426.4	46.58	-27.42	74	38.3	31.49	9.06	32.27	117	39	P	H
		5428.64	37.42	-16.58	54	29.1	31.5	9.09	32.27	117	39	A	H
		5035.88	45.83	-28.17	74	37.85	31.31	8.67	32	390	6	P	V
		5077.48	36.96	-17.04	54	28.92	31.33	8.74	32.03	390	6	A	V
	*	5240	94.4	-	-	86.24	31.41	8.88	32.13	390	6	P	V
	*	5240	92.82	-	-	84.66	31.41	8.88	32.13	390	6	A	V
		5364.24	46.13	-27.87	74	37.86	31.47	9.02	32.22	390	6	P	V
		5428.08	36.96	-17.04	54	28.65	31.49	9.09	32.27	390	6	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	43.82	-30.18	74	51.34	39.84	11.63	58.99	152	260	P	H
		15540	48.7	-25.3	74	54.88	38.85	13.9	58.93	189	238	P	H
		10360	44.22	-29.78	74	51.74	39.84	11.63	58.99	152	260	P	V
		15540	49.17	-24.83	74	55.35	38.85	13.9	58.93	189	238	P	V
802.11n HT20 CH 44 5220MHz		10440	42.05	-31.95	74	49.38	39.93	11.66	58.92	150	230	P	H
		15660	48.78	-25.22	74	55.56	38.32	13.96	59.06	160	225	P	H
		10440	43.52	-30.48	74	50.85	39.93	11.66	58.92	150	230	P	V
		15660	48.25	-25.75	74	55.03	38.32	13.96	59.06	160	225	P	V
802.11n HT20 CH 48 5240MHz		10480	41.81	-32.19	74	49.01	39.99	11.67	58.86	150	289	P	H
		15720	48.63	-25.37	74	55.76	38.01	13.98	59.12	150	291	P	H
		10480	41.85	-32.15	74	49.05	39.99	11.67	58.86	150	289	P	V
		15720	48.05	-25.95	74	55.18	38.01	13.98	59.12	150	291	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		5149.5	51.49	-22.51	74	43.44	31.36	8.77	32.08	134	67	P	H
		5149.76	42.48	-11.52	54	34.43	31.36	8.77	32.08	134	67	A	H
	*	5190	91.71	-	-	83.62	31.38	8.81	32.1	134	67	P	H
	*	5190	85.3	-	-	77.21	31.38	8.81	32.1	134	67	A	H
		5391.4	46.14	-27.86	74	37.83	31.48	9.06	32.23	134	67	P	H
		5403.44	37.19	-16.81	54	28.89	31.49	9.06	32.25	134	67	A	H
		5147.42	48.66	-25.34	74	40.61	31.36	8.77	32.08	176	33	P	V
		5149.76	40.34	-13.66	54	32.29	31.36	8.77	32.08	176	33	A	V
	*	5190	85.49	-	-	77.4	31.38	8.81	32.1	176	33	P	V
	*	5190	80.6	-	-	72.51	31.38	8.81	32.1	176	33	A	V
		5406.52	45.77	-28.23	74	37.47	31.49	9.06	32.25	176	33	P	V
		5423.32	37.22	-16.78	54	28.92	31.49	9.06	32.25	176	33	A	V
802.11n HT40 CH 46 5230MHz		5119.08	46.26	-27.74	74	38.2	31.35	8.77	32.06	139	67	P	H
		5127.4	37.37	-16.63	54	29.3	31.36	8.77	32.06	139	67	A	H
	*	5230	92.38	-	-	84.26	31.41	8.84	32.13	139	67	P	H
	*	5230	85.34	-	-	77.22	31.41	8.84	32.13	139	67	A	H
		5440.08	45.23	-28.77	74	36.91	31.5	9.09	32.27	139	67	P	H
		5450.88	37.47	-16.53	54	29.15	31.51	9.09	32.28	139	67	A	H
		5041.34	45.88	-28.12	74	37.86	31.32	8.7	32	350	323	P	V
		5079.3	37.08	-16.92	54	29.04	31.33	8.74	32.03	350	323	A	V
	*	5230	87	-	-	78.88	31.41	8.84	32.13	350	323	P	V
	*	5230	82.01	-	-	73.89	31.41	8.84	32.13	350	323	A	V
		5378.64	45.55	-28.45	74	37.28	31.48	9.02	32.23	350	323	P	V
		5427.84	37.32	-16.68	54	29.01	31.49	9.09	32.27	350	323	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		10380	49.49	-24.51	74	56.95	39.87	11.64	58.97	150	360	P	H
HT40		15570	48.84	-25.16	74	55.19	38.7	13.92	58.97	155	360	P	H
CH 38		10380	49.67	-24.33	74	57.13	39.87	11.64	58.97	150	360	P	V
5190MHz		15570	49.45	-24.55	74	55.8	38.7	13.92	58.97	155	360	P	V
802.11n		10460	49.29	-24.71	74	56.57	39.95	11.67	58.9	150	360	P	H
HT40		15690	49.47	-24.53	74	56.41	38.17	13.98	59.09	150	225	P	H
CH 46		10460	49.21	-24.79	74	56.49	39.95	11.67	58.9	150	360	P	V
5230MHz		15690	49.28	-24.72	74	56.22	38.17	13.98	59.09	150	225	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 1 5150~5250MHz

Band 2 - 5250~5350MHz

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 52 5260MHz		5030.16	46.25	-27.75	74	38.27	31.31	8.67	32	112	70	P	H
		5102.7	36.95	-17.05	54	28.92	31.34	8.74	32.05	112	70	A	H
	*	5260	97.71	-	-	89.56	31.42	8.88	32.15	112	70	P	H
	*	5260	91.19	-	-	83.04	31.42	8.88	32.15	112	70	A	H
		5385.84	47.06	-26.94	74	38.79	31.48	9.02	32.23	112	70	P	H
		5451.6	37.12	-16.88	54	28.8	31.51	9.09	32.28	112	70	A	H
		5048.36	46.69	-27.31	74	38.68	31.32	8.7	32.01	347	321	P	V
		5079.56	36.83	-17.17	54	28.79	31.33	8.74	32.03	347	321	A	V
	*	5260	94.31	-	-	86.16	31.42	8.88	32.15	347	321	P	V
	*	5260	88.28	-	-	80.13	31.42	8.88	32.15	347	321	A	V
		5409.36	45.71	-28.29	74	37.41	31.49	9.06	32.25	347	321	P	V
		5448.48	36.98	-17.02	54	28.65	31.51	9.09	32.27	347	321	A	V
802.11a CH 60 5300MHz		5077.35	45.83	-28.17	74	37.79	31.33	8.74	32.03	108	70	P	H
		5077.35	37	-17	54	28.96	31.33	8.74	32.03	108	70	A	H
	*	5300	97.83	-	-	89.64	31.44	8.93	32.18	108	70	P	H
	*	5300	92.19	-	-	84	31.44	8.93	32.18	108	70	A	H
		5352.24	47.76	-26.24	74	39.5	31.46	9.02	32.22	108	70	P	H
		5352.24	40.94	-13.06	54	32.68	31.46	9.02	32.22	108	70	A	H
		5061.6	46.03	-27.97	74	38.02	31.32	8.7	32.01	353	320	P	V
		5040.25	36.78	-17.22	54	28.76	31.32	8.7	32	353	320	A	V
	*	5300	94.97	-	-	86.78	31.44	8.93	32.18	353	320	P	V
	*	5300	89.2	-	-	81.01	31.44	8.93	32.18	353	320	A	V
		5353.68	46.45	-27.55	74	38.19	31.46	9.02	32.22	353	320	P	V
		5352.48	39.28	-14.72	54	31.02	31.46	9.02	32.22	353	320	A	V



802.11a CH 64 5320MHz	*	5320	97.85	-	-	89.61	31.45	8.97	32.18	168	68	P	H
	*	5320	91.8	-	-	83.56	31.45	8.97	32.18	168	68	A	H
		5352.8	53.9	-20.1	74	45.64	31.46	9.02	32.22	168	68	P	H
		5372.16	40.77	-13.23	54	32.5	31.47	9.02	32.22	168	68	A	H
	*	5320	94.69	-	-	86.45	31.45	8.97	32.18	285	0	P	V
	*	5320	88.55	-	-	80.31	31.45	8.97	32.18	285	0	A	V
		5350.72	46.43	-27.57	74	38.17	31.46	9.02	32.22	285	0	P	V
		5372.48	38.56	-15.44	54	30.29	31.47	9.02	32.22	285	0	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	42.33	-31.67	74	49.43	40.03	11.69	58.82	150	220	P	H
		15780	48.42	-25.58	74	55.78	37.79	14.03	59.18	159	345	P	H
		10520	42.15	-31.85	74	49.25	40.03	11.69	58.82	150	220	P	V
		15780	48.04	-25.96	74	55.4	37.79	14.03	59.18	159	345	P	V
802.11a CH 60 5300MHz		10600	42.26	-31.74	74	49.15	40.13	11.71	58.73	185	215	P	H
		15900	47.17	-26.83	74	55.12	37.26	14.09	59.3	196	190	P	H
		10600	42.84	-31.16	74	49.73	40.13	11.71	58.73	185	215	P	V
		15900	47.01	-26.99	74	54.96	37.26	14.09	59.3	196	190	P	V
802.11a CH 64 5320MHz		10640	43.16	-30.84	74	49.95	40.17	11.73	58.69	152	135	P	H
		15960	45.56	-28.44	74	53.85	36.95	14.13	59.37	173	245	P	H
		10640	43.63	-30.37	74	50.42	40.17	11.73	58.69	152	135	P	V
		15960	45.5	-28.5	74	53.79	36.95	14.13	59.37	173	245	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 52 5260MHz		5044.2	46.18	-27.82	74	38.17	31.32	8.7	32.01	120	74	P	H
		5036.14	36.88	-17.12	54	28.9	31.31	8.67	32	120	74	A	H
	*	5260	99.52	-	-	91.37	31.42	8.88	32.15	120	74	P	H
	*	5260	92.74	-	-	84.59	31.42	8.88	32.15	120	74	A	H
		5427.6	46.31	-27.69	74	38	31.49	9.09	32.27	120	74	P	H
		5446.8	37.25	-16.75	54	28.92	31.51	9.09	32.27	120	74	A	H
		5052.52	45.72	-28.28	74	37.71	31.32	8.7	32.01	368	5	P	V
		5041.86	36.93	-17.07	54	28.92	31.32	8.7	32.01	368	5	A	V
	*	5260	96.09	-	-	87.94	31.42	8.88	32.15	368	5	P	V
	*	5260	88.42	-	-	80.27	31.42	8.88	32.15	368	5	A	V
		5448	45.57	-28.43	74	37.24	31.51	9.09	32.27	368	5	P	V
		5446.32	37.05	-16.95	54	28.72	31.51	9.09	32.27	368	5	A	V
802.11n HT20 CH 60 5300MHz		5032.55	45.19	-28.81	74	37.21	31.31	8.67	32	100	41	P	H
		5074.2	36.89	-17.11	54	28.89	31.33	8.7	32.03	100	41	A	H
	*	5300	99.85	-	-	91.66	31.44	8.93	32.18	100	41	P	H
	*	5300	93.61	-	-	85.42	31.44	8.93	32.18	100	41	A	H
		5351.52	50.81	-23.19	74	42.55	31.46	9.02	32.22	100	41	P	H
		5351.76	43.68	-10.32	54	35.42	31.46	9.02	32.22	100	41	A	H
		5019.95	46.23	-27.77	74	38.26	31.3	8.67	32	119	3	P	V
		5058.1	37.07	-16.93	54	29.06	31.32	8.7	32.01	119	3	A	V
	*	5300	95.43	-	-	87.24	31.44	8.93	32.18	119	3	P	V
	*	5300	88.63	-	-	80.44	31.44	8.93	32.18	119	3	A	V
		5351.52	46.74	-27.26	74	38.48	31.46	9.02	32.22	119	3	P	V
		5351.52	39.82	-14.18	54	31.56	31.46	9.02	32.22	119	3	A	V



802.11n HT20 CH 64 5320MHz	*	5320	99.68	-	-	91.44	31.45	8.97	32.18	116	39	P	H
	*	5320	92.47	-	-	84.23	31.45	8.97	32.18	116	39	A	H
		5350.08	53.57	-20.43	74	45.31	31.46	9.02	32.22	116	39	P	H
		5371.52	43.28	-10.72	54	35.01	31.47	9.02	32.22	116	39	A	H
	*	5320	94.5	-	-	86.26	31.45	8.97	32.18	381	4	P	V
	*	5320	88.37	-	-	80.13	31.45	8.97	32.18	381	4	A	V
		5350.08	51.56	-22.44	74	43.3	31.46	9.02	32.22	381	4	P	V
		5350.72	39.45	-14.55	54	31.19	31.46	9.02	32.22	381	4	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	42	-32	74	49.1	40.03	11.69	58.82	150	220	P	H
		15780	48.16	-25.84	74	55.52	37.79	14.03	59.18	159	345	P	H
		10520	42.22	-31.78	74	49.32	40.03	11.69	58.82	150	220	P	V
		15780	48.38	-25.62	74	55.74	37.79	14.03	59.18	159	345	P	V
802.11n HT20 CH 60 5300MHz		10600	49.39	-24.61	74	56.28	40.13	11.71	58.73	185	215	P	H
		15900	48.58	-25.42	74	56.53	37.26	14.09	59.3	196	190	P	H
		10600	49.11	-24.89	74	56	40.13	11.71	58.73	165	210	P	V
		15900	49.33	-24.67	74	57.28	37.26	14.09	59.3	114	152	P	V
802.11n HT20 CH 64 5320MHz		10640	49.47	-24.53	74	56.26	40.17	11.73	58.69	168	30	P	H
		15960	48.18	-25.82	74	56.47	36.95	14.13	59.37	245	76	P	H
		10640	50.18	-23.82	74	56.97	40.17	11.73	58.69	152	135	P	V
		15960	47.78	-26.22	74	56.07	36.95	14.13	59.37	173	245	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 54 5270MHz		5062.92	45.76	-28.24	74	37.75	31.32	8.7	32.01	130	68	P	H
		5049.66	37.12	-16.88	54	29.11	31.32	8.7	32.01	130	68	A	H
	*	5270	90.79	-	-	82.64	31.42	8.88	32.15	130	68	P	H
	*	5270	85.98	-	-	77.83	31.42	8.88	32.15	130	68	A	H
		5436.72	45.26	-28.74	74	36.94	31.5	9.09	32.27	130	68	P	H
		5372.64	38.23	-15.77	54	29.96	31.47	9.02	32.22	130	68	A	H
		5063.18	45.67	-28.33	74	37.66	31.32	8.7	32.01	288	344	P	V
		5081.9	37.22	-16.78	54	29.18	31.33	8.74	32.03	288	344	A	V
	*	5270	88.56	-	-	80.41	31.42	8.88	32.15	288	344	P	V
	*	5270	83.16	-	-	75.01	31.42	8.88	32.15	288	344	A	V
		5450.4	46.15	-27.85	74	37.83	31.51	9.09	32.28	288	344	P	V
		5372.4	37.52	-16.48	54	29.25	31.47	9.02	32.22	288	344	A	V
802.11n HT40 CH 62 5310MHz		5087.15	45.6	-28.4	74	37.56	31.33	8.74	32.03	146	68	P	H
		5023.8	37.23	-16.77	54	29.25	31.31	8.67	32	146	68	A	H
	*	5310	92.36	-	-	84.12	31.45	8.97	32.18	146	68	P	H
	*	5310	86.74	-	-	78.5	31.45	8.97	32.18	146	68	A	H
		5351.28	56.54	-17.46	74	48.28	31.46	9.02	32.22	146	68	P	H
		5350.56	47.55	-6.45	54	39.29	31.46	9.02	32.22	146	68	A	H
		5087.15	45.72	-28.28	74	37.68	31.33	8.74	32.03	335	322	P	V
		5042.35	37.19	-16.81	54	29.18	31.32	8.7	32.01	335	322	A	V
	*	5310	88.62	-	-	80.38	31.45	8.97	32.18	335	322	P	V
	*	5310	83.75	-	-	75.51	31.45	8.97	32.18	335	322	A	V
		5352.24	55.67	-18.33	74	47.41	31.46	9.02	32.22	335	322	P	V
		5350.8	44.94	-9.06	54	36.68	31.46	9.02	32.22	335	322	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 2 5250~5350MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		10540	48.68	-25.32	74	55.73	40.05	11.7	58.8	150	220	P	H
HT40		15810	49.75	-24.25	74	57.28	37.63	14.05	59.21	168	345	P	H
CH 54		10540	49.18	-24.82	74	56.23	40.05	11.7	58.8	150	220	P	V
5270MHz		15810	48.39	-25.61	74	55.92	37.63	14.05	59.21	168	345	P	V
802.11n		10620	50.78	-23.22	74	57.61	40.15	11.73	58.71	159	360	P	H
HT40		15930	48.9	-25.1	74	57.02	37.1	14.11	59.33	160	100	P	H
CH 62		10620	50.26	-23.74	74	57.09	40.15	11.73	58.71	150	220	P	V
5310MHz		15930	49.21	-24.79	74	57.33	37.1	14.11	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

Band 3 - 5470~5725MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamplifier 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 100 5500MHz		5467.76	56.46	-17.54	74	48.1	31.52	9.12	32.28	229	69	P	H
		5470	46.84	-7.16	54	38.48	31.52	9.12	32.28	229	69	A	H
	*	5500	102.52	-	-	94.16	31.54	9.12	32.3	229	69	P	H
	*	5500	95.66	-	-	87.3	31.54	9.12	32.3	229	69	A	H
		5468.72	51.69	-22.31	74	43.33	31.52	9.12	32.28	245	336	P	V
		5469.52	41.84	-12.16	54	33.48	31.52	9.12	32.28	245	336	A	V
	*	5500	96.51	-	-	88.15	31.54	9.12	32.3	245	336	P	V
	*	5500	91.01	-	-	82.65	31.54	9.12	32.3	245	336	A	V
802.11a CH 116 5580MHz		5448.16	46.52	-27.48	74	38.19	31.51	9.09	32.27	236	38	P	H
		5465.92	37.69	-16.31	54	29.33	31.52	9.12	32.28	236	38	A	H
	*	5580	102.45	-	-	93.87	31.57	9.17	32.16	236	38	P	H
	*	5580	96.68	-	-	88.1	31.57	9.17	32.16	236	38	A	H
		5744.84	47.32	-26.68	74	37.99	31.97	9.3	31.94	236	38	P	H
		5730.35	38.26	-15.74	54	29.01	31.91	9.28	31.94	236	38	A	H
		5455.6	46.95	-27.05	74	38.63	31.51	9.09	32.28	228	347	P	V
		5447.44	37.25	-16.75	54	28.92	31.51	9.09	32.27	228	347	A	V
	*	5580	97.8	-	-	89.22	31.57	9.17	32.16	228	347	P	V
	*	5580	91.48	-	-	82.9	31.57	9.17	32.16	228	347	A	V
		5760.59	47.29	-26.71	74	37.86	32.03	9.3	31.9	228	347	P	V
		5729.72	37.93	-16.07	54	28.72	31.91	9.28	31.98	228	347	A	V



802.11a CH 140 5700MHz	*	5700	102.54	-	-	93.49	31.78	9.28	32.01	214	39	P	H
	*	5700	96.18	-	-	87.13	31.78	9.28	32.01	214	39	A	H
		5726.36	63.22	-10.78	74	54.01	31.91	9.28	31.98	214	39	P	H
		5725	51.47	-2.53	54	42.26	31.91	9.28	31.98	214	39	A	H
	*	5700	98.48	-	-	89.43	31.78	9.28	32.01	278	335	P	V
	*	5700	92.66	-	-	83.61	31.78	9.28	32.01	278	335	A	V
		5725.8	57.74	-16.26	74	48.53	31.91	9.28	31.98	278	335	P	V
		5725	46.13	-7.87	54	36.92	31.91	9.28	31.98	278	335	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 (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	47.49	-26.51	74	53.34	40.59	11.86	58.3	163	230	P	H
		16500	48	-26	74	53.49	38.94	14.41	58.84	196	273	P	H
		11000	47.44	-26.56	74	53.29	40.59	11.86	58.3	155	212	P	V
		16500	47.5	-26.5	74	52.99	38.94	14.41	58.84	178	296	P	V
802.11a CH 116 5580MHz		11160	48.25	-25.75	74	53.63	40.8	11.93	58.11	183	32	P	H
		16740	48.88	-25.12	74	52.96	39.93	14.57	58.58	163	332	P	H
		11160	47.69	-26.31	74	53.07	40.8	11.93	58.11	170	200	P	V
		16740	48.54	-25.46	74	52.62	39.93	14.57	58.58	156	350	P	V
802.11a CH 140 5700MHz		11400	49.33	-24.67	74	54.08	41.08	12.02	57.85	157	285	P	H
		17100	48.52	-25.48	74	50.32	41.6	14.76	58.16	165	246	P	H
		11400	48.81	-25.19	74	53.56	41.08	12.02	57.85	122	291	P	V
		17100	48.65	-25.35	74	50.45	41.6	14.76	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		5469.04	57.36	-16.64	74	49	31.52	9.12	32.28	217	72	P	H
		5470	47.71	-6.29	54	39.35	31.52	9.12	32.28	217	72	A	H
	*	5500	100.82	-	-	92.46	31.54	9.12	32.3	217	72	P	H
	*	5500	94.84	-	-	86.48	31.54	9.12	32.3	217	72	A	H
		5468.72	53.87	-20.13	74	45.51	31.52	9.12	32.28	220	330	P	V
		5470	44.19	-9.81	54	35.83	31.52	9.12	32.28	220	330	A	V
	*	5500	98.39	-	-	90.03	31.54	9.12	32.3	220	330	P	V
	*	5500	90.76	-	-	82.4	31.54	9.12	32.3	220	330	A	V
802.11n HT20 CH 116 5580MHz		5432.32	46.77	-27.23	74	38.45	31.5	9.09	32.27	255	40	P	H
		5467.36	36.96	-17.04	54	28.6	31.52	9.12	32.28	255	40	A	H
	*	5580	100.51	-	-	91.93	31.57	9.17	32.16	255	40	P	H
	*	5580	94.37	-	-	85.79	31.57	9.17	32.16	255	40	A	H
		5761.535	46.78	-27.22	74	37.35	32.03	9.3	31.9	255	40	P	H
		5734.13	37.52	-16.48	54	28.27	31.91	9.28	31.94	255	40	A	H
		5463.28	45.62	-28.38	74	37.29	31.52	9.09	32.28	240	331	P	V
		5468.8	36.83	-17.17	54	28.47	31.52	9.12	32.28	240	331	A	V
	*	5580	96.47	-	-	87.89	31.57	9.17	32.16	240	331	P	V
	*	5580	90.59	-	-	82.01	31.57	9.17	32.16	240	331	A	V
		5740.115	45.57	-28.43	74	36.24	31.97	9.3	31.94	240	331	P	V
		5750.51	37.75	-16.25	54	28.42	31.97	9.3	31.94	240	331	A	V



802.11n HT20 CH 140 5700MHz	*	5700	99.37	-	-	90.32	31.78	9.28	32.01	238	40	P	H
	*	5700	93.74	-	-	84.69	31.78	9.28	32.01	238	40	A	H
		5725	65.11	-8.89	74	55.9	31.91	9.28	31.98	238	40	P	H
		5725.08	52.45	-1.55	54	43.24	31.91	9.28	31.98	238	40	A	H
	*	5700	95.36	-	-	86.31	31.78	9.28	32.01	297	333	P	V
	*	5700	90.27	-	-	81.22	31.78	9.28	32.01	297	333	A	V
		5725.24	57.22	-16.78	74	48.01	31.91	9.28	31.98	297	333	P	V
		5725	47.81	-6.19	54	38.6	31.91	9.28	31.98	297	333	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	48.25	-25.75	74	54.1	40.59	11.86	58.3	163	230	P	H
HT20		16500	50.82	-23.18	74	56.31	38.94	14.41	58.84	196	273	P	H
CH 100		11000	47.86	-26.14	74	53.71	40.59	11.86	58.3	155	212	P	V
5500MHz		16500	50.03	-23.97	74	55.52	38.94	14.41	58.84	178	296	P	V
802.11n		11160	46.61	-27.39	74	51.99	40.8	11.93	58.11	183	32	P	H
HT20		16740	49.59	-24.41	74	53.67	39.93	14.57	58.58	163	332	P	H
CH 116		11160	46.59	-27.41	74	51.97	40.8	11.93	58.11	170	200	P	V
5580MHz		16740	49.19	-24.81	74	53.27	39.93	14.57	58.58	156	350	P	V
802.11n		11400	42.62	-31.38	74	47.37	41.08	12.02	57.85	157	285	P	H
HT20		17100	50.91	-23.09	74	52.71	41.6	14.76	58.16	165	246	P	H
CH 140		11400	43.75	-30.25	74	48.5	41.08	12.02	57.85	122	291	P	V
5700MHz		17100	50.83	-23.17	74	52.63	41.6	14.76	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		5469.52	58.26	-15.74	74	49.9	31.52	9.12	32.28	228	70	P	H
		5469.52	47.77	-6.23	54	39.41	31.52	9.12	32.28	228	70	A	H
	*	5510	94.56	-	-	86.14	31.54	9.14	32.26	228	70	P	H
	*	5510	86.93	-	-	78.51	31.54	9.14	32.26	228	70	A	H
		5755.87	46.13	-27.87	74	36.7	32.03	9.3	31.9	228	70	P	H
		5752.4	38.32	-15.68	54	28.93	32.03	9.3	31.94	228	70	A	H
		5470	54.21	-19.79	74	45.85	31.52	9.12	32.28	235	331	P	V
		5468.8	44.56	-9.44	54	36.2	31.52	9.12	32.28	235	331	A	V
	*	5510	91.89	-	-	83.47	31.54	9.14	32.26	235	331	P	V
	*	5510	85.12	-	-	76.7	31.54	9.14	32.26	235	331	A	V
		5747.05	45.73	-28.27	74	36.4	31.97	9.3	31.94	235	331	P	V
		5756.5	38.23	-15.77	54	28.8	32.03	9.3	31.9	235	331	A	V
802.11n HT40 CH 110 5550MHz		5465.44	46.96	-27.04	74	38.63	31.52	9.09	32.28	248	40	P	H
		5447.92	38.67	-15.33	54	30.34	31.51	9.09	32.27	248	40	A	H
	*	5550	95.12	-	-	86.62	31.56	9.17	32.23	248	40	P	H
	*	5550	88.5	-	-	80	31.56	9.17	32.23	248	40	A	H
		5752.09	46.26	-27.74	74	36.87	32.03	9.3	31.94	248	40	P	H
		5754.92	38.12	-15.88	54	28.73	32.03	9.3	31.94	248	40	A	H
		5466.16	47.13	-26.87	74	38.77	31.52	9.12	32.28	233	331	P	V
		5447.44	37.67	-16.33	54	29.34	31.51	9.09	32.27	233	331	A	V
	*	5550	90.77	-	-	82.27	31.56	9.17	32.23	233	331	P	V
	*	5550	85.3	-	-	76.8	31.56	9.17	32.23	233	331	A	V
		5758.07	45.84	-28.16	74	36.41	32.03	9.3	31.9	233	331	P	V
		5730.35	38.01	-15.99	54	28.76	31.91	9.28	31.94	233	331	A	V



802.11n HT40 CH 134 5670MHz		5406.35	46	-28	74	37.7	31.49	9.06	32.25	254	43	P	H
		5444.15	37.74	-16.26	54	29.42	31.5	9.09	32.27	254	43	A	H
	*	5670	94.99	-	-	86.07	31.72	9.25	32.05	254	43	P	H
	*	5670	89.05	-	-	80.13	31.72	9.25	32.05	254	43	A	H
		5726.33	50.81	-23.19	74	41.6	31.91	9.28	31.98	254	43	P	H
		5728.25	40.48	-13.52	54	31.27	31.91	9.28	31.98	254	43	A	H
		5421.4	46.22	-27.78	74	37.92	31.49	9.06	32.25	235	332	P	V
		5364.35	37.77	-16.23	54	29.5	31.47	9.02	32.22	235	332	A	V
	*	5670	91.41	-	-	82.49	31.72	9.25	32.05	235	332	P	V
	*	5670	86.05	-	-	77.13	31.72	9.25	32.05	235	332	A	V
		5746.63	47.08	-26.92	74	37.75	31.97	9.3	31.94	235	332	P	V
		5725.8	39.51	-14.49	54	30.3	31.91	9.28	31.98	235	332	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	47.92	-26.08	74	53.72	40.61	11.87	58.28	170	230	P	H
HT40		16530	49.23	-24.77	74	54.51	39.08	14.44	58.8	160	300	P	H
CH 102		11020	48.17	-25.83	74	53.97	40.61	11.87	58.28	170	230	P	V
5510MHz		16530	49.01	-24.99	74	54.29	39.08	14.44	58.8	160	300	P	V
802.11n		11100	47.01	-26.99	74	52.59	40.71	11.9	58.19	160	220	P	H
HT40		16650	50.85	-23.15	74	55.44	39.58	14.5	58.67	180	353	P	H
CH 110		11100	46.62	-27.38	74	52.2	40.71	11.9	58.19	155	210	P	V
5550MHz		16650	49.92	-24.08	74	54.51	39.58	14.5	58.67	171	352	P	V
802.11n		11340	43.66	-30.34	74	48.6	41	11.99	57.93	195	335	P	H
HT40		17010	49.54	-24.46	74	52	41.1	14.72	58.28	205	310	P	H
CH 134		11340	43.91	-30.09	74	48.85	41	11.99	57.93	205	325	P	V
5670MHz		17010	50.81	-23.19	74	53.27	41.1	14.72	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

Emission below 1GHz

WIFI 802.11n HT20 (LF @ 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)
802.11n HT20 LF		30	24.12	-15.88	40	31.76	24.3	0.56	32.5	120	155	P	H
		144.46	23.25	-20.25	43.5	36.83	17.07	1.25	31.9			P	H
		263.77	23.48	-22.52	46	33.85	19.79	1.7	31.86			P	H
		399.57	27.35	-18.65	46	35.24	21.7	2.12	31.71			P	H
		480.08	26.45	-19.55	46	32.57	23.14	2.34	31.6			P	H
		866.14	27.98	-18.02	46	29.47	26.53	3.24	31.26			P	H
		30	29.48	-10.52	40	37.12	24.3	0.56	32.5	102	233	P	V
		58.13	27.04	-12.96	40	46.09	12.62	0.78	32.45			P	V
		85.29	21.4	-18.6	40	38.64	13.6	0.96	31.8			P	V
		256.98	21.44	-24.56	46	31.94	19.64	1.68	31.82			P	V
		743.92	27.44	-18.56	46	30.68	25.58	2.97	31.79			P	V
		925.31	28.88	-17.12	46	29.86	26.85	3.36	31.19			P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



Band 3 - Straddle Channel

WIFI 802.11a (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 144 5720MHz		11440	49.97	-24.03	74	54.64	41.12	12.03	57.82	161	360	P	H
		17160	50.21	-23.79	74	51.48	42	14.79	58.06	165	70	P	H
		11440	50.93	-23.07	74	55.6	41.12	12.03	57.82	132	50	P	V
		17160	50.41	-23.59	74	51.68	42	14.79	58.06	144	70	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)
802.11n20 CH 144 5720MHz		11440	50.54	-23.46	74	55.21	41.12	12.03	57.82	160	82	P	H
		17160	50.91	-23.09	74	52.18	42	14.79	58.06	138	92	P	H
		11440	50.27	-23.73	74	54.94	41.12	12.03	57.82	185	159	P	V
		17160	50.89	-23.11	74	52.16	42	14.79	58.06	151	314	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**Band 3 - Straddle Channel****WIFI 802.11n40 (Harmonic @ 3m)**

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n40 CH 142 5710MHz		11420	50.91	-23.09	74	55.62	41.1	12.02	57.83	118	37	P	H
		17130	50.84	-23.16	74	52.36	41.8	14.79	58.11	195	71	P	H
		11420	50.1	-23.9	74	54.81	41.1	12.02	57.83	179	125	P	V
		17130	50.63	-23.37	74	52.15	41.8	14.79	58.11	195	306	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Note symbol

*	Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is 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)

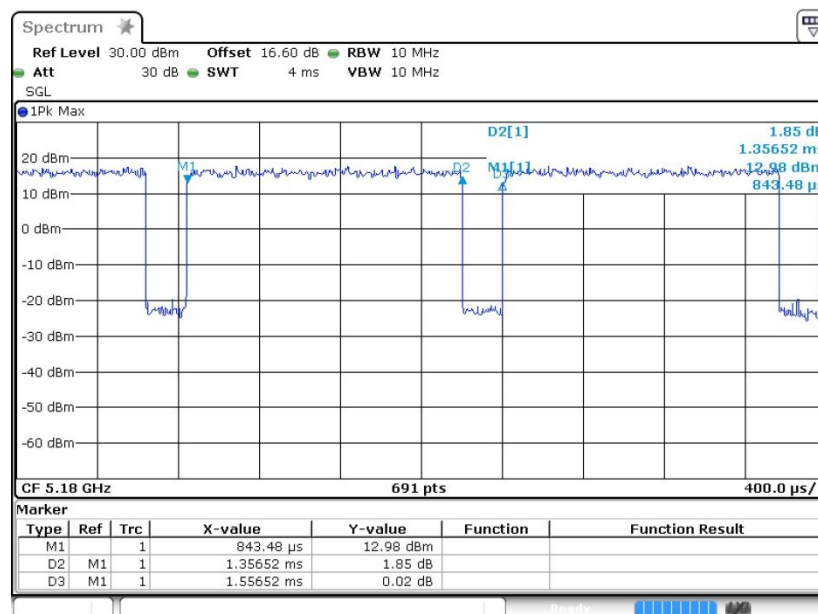
= -10.46(dB)

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

Appendix C. Duty Cycle Plots

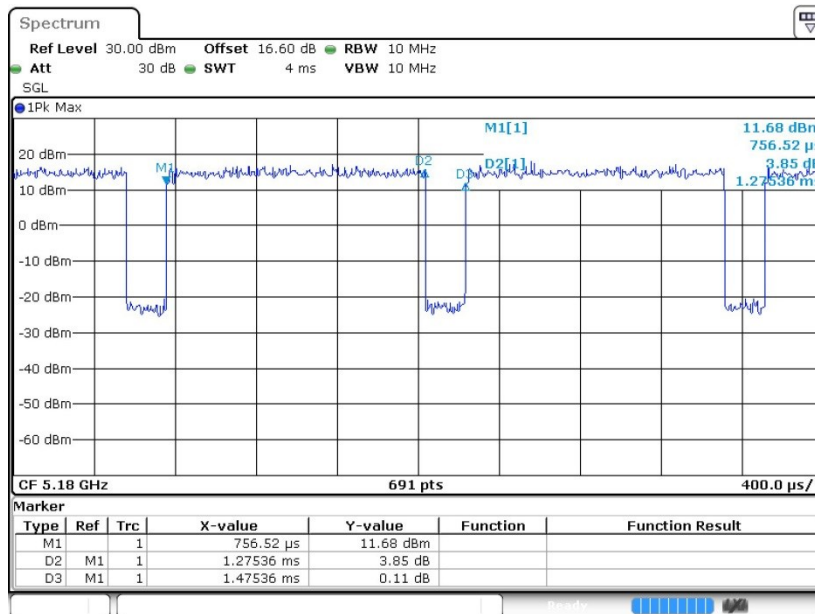
Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	87.15	1.357	0.737	1KHz
802.11n HT20	86.44	1.275	0.784	1KHz
802.11n HT40	76.12	0.638	1.568	3KHz

802.11a





802.11n HT20



802.11n HT40

