FCC RF Test Report

APPLICANT	**:**	**Bullitt Group**
EQUIPMENT	**:**	**Rugged Smart Phone**
BRAND NAME	**:**	**CAT**
MODEL NAME	**:**	**S48c**
FCC ID	**:**	**ZL5S48C**
STANDARD	**:**	**FCC Part 15 Subpart E §15.407**
CLASSIFICATION	**:**	**(NII) Unlicensed National Information Infrastructure**

The product was received on Jun. 06, 2018 and testing was completed on Jun. 24, 2018. 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.

Eric Shih

NVLAP TESTING
NVLAP LAB CODE 600156-0

Approved by: Eric Shih / Manager

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR850804-02E	Rev. 01	Initial issue of report	Jul. 06, 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 8.49 dB at 40.670 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 20.70 dB at 0.650 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

Bullitt Group
One Valpy, Valpy Street, Reading, Berkshire, England RG1 1AR

1.2 Product Feature of Equipment Under Test

Product Feature	
Equipment	Rugged Smart Phone
Brand Name	CAT
Model Name	S48c
FCC ID	ZL5S48C
EUT supports Radios application	CDMA/EV-DO/GSM/GPRS/EGPRS/WCDMA/HSPA/ DC-HSDPA/HSPA+/LTE/NFC/ WLAN 2.4GHz 802.11b/g/n HT20/HT40/ WLAN 5GHz 802.11a/n HT20/HT40/ WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE
IMEI Code	Conducted: 358016090012455 Conduction: 358016090005806 Radiation: 358016090009337
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.3 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency Range	5180 MHz ~ 5240 MHz 5260 MHz ~ 5320 MHz 5500 MHz ~ 5720 MHz
Maximum Output Power to Antenna	**<5180 MHz ~ 5240 MHz>** 802.11a : 15.32 dBm / 0.0340 W 802.11n HT20 : 15.19 dBm / 0.0330 W 802.11n HT40 : 15.19 dBm / 0.0330 W 802.11ac VHT20 : 15.14 dBm / 0.0327 W 802.11ac VHT40 : 15.17 dBm / 0.0329 W 802.11ac VHT80 : 14.93 dBm / 0.0311 W **<5260 MHz ~ 5320 MHz>** 802.11a : 15.68 dBm / 0.0370 W 802.11n HT20 : 15.52 dBm / 0.0356 W 802.11n HT40 : 15.32 dBm / 0.0340 W 802.11ac VHT20 : 15.47 dBm / 0.0352 W 802.11ac VHT40 : 15.30 dBm / 0.0339 W 802.11ac VHT80 : 15.10 dBm / 0.0324 W **<5500 MHz ~ 5720 MHz >** 802.11a : 15.60 dBm / 0.0363 W 802.11n HT20 : 15.51 dBm / 0.0356 W 802.11n HT40 : 15.19 dBm / 0.0330 W 802.11ac VHT20 : 15.45 dBm / 0.0351 W 802.11ac VHT40 : 15.18 dBm / 0.0330 W 802.11ac VHT80 : 15.25 dBm / 0.0335 W
99% Occupied Bandwidth	**<5180 MHz ~ 5240 MHz>** 802.11a : 17.78 MHz 802.11n HT20 : 18.88 MHz 802.11n HT40 : 36.66 MHz 802.11ac VHT80 : 75.76 MHz **<5260 MHz ~ 5320 MHz>** 802.11a : 17.78 MHz 802.11n HT20 : 18.83 MHz 802.11n HT40 : 36.66 MHz 802.11ac VHT80 : 75.64 MHz **<5500 MHz ~ 5720 MHz >** 802.11a : 17.88 MHz 802.11n HT20 : 18.88 MHz 802.11n HT40 : 36.66 MHz 802.11ac VHT80 : 75.76 MHz
Antenna Type / Gain	**<5180 MHz ~ 5240 MHz>** IFA Antenna with gain -2.00 dBi **<5260 MHz ~ 5320 MHz>** IFA Antenna with gain -2.50 dBi **<5500 MHz ~ 5720 MHz >** IFA Antenna with gain -1.50 dBi
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)

Note: For 802.11n HT20 / ac VHT20 and 802.11n HT40 / ac VHT40 mode, the whole testing have assessed only 802.11an HT20/ HT40 by referring to their maximum conducted power.

1.4 Modification of EUT

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

1.5 Testing Location

Sporton International (Shenzhen) Inc. is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600156-0) and the FCC designation No. are CN5018 and CN5019.

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 Test Firm Registration No.**
	TH01-SZ	CO01-SZ	251365

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 Test Firm Registration No.**
	03CH02-SZ	577730

Note: The test site complies with ANSI C63.4 2014 requirement.

1.6 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC 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)
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)
TDWR Channel	118*	5590	124	5620
	120	5600	126*	5630
	122#	5610	128	5640

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
Straddle Channel	138#	5690	144	5720
	142*	5710		

Note:

1. The above Frequency and Channel in "*" were 802.11n HT40 and 802.11ac VHT40.
2. The above Frequency and Channel in "#" were 802.11ac VHT80.

2.2 Test Mode

Final test modes are considering the modulation and worse data rates as below table.

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

Test Cases	
AC Conducted Emission	Mode 1 : GSM850 Idle + Bluetooth Link + WLAN Link(5GHz) + Camera(Rear) + USB Cable (Charging from Adapter) + Earphone
Remark: For Radiated Test Cases, The tests were performed with Adapter, Earphone and USB Cable.	

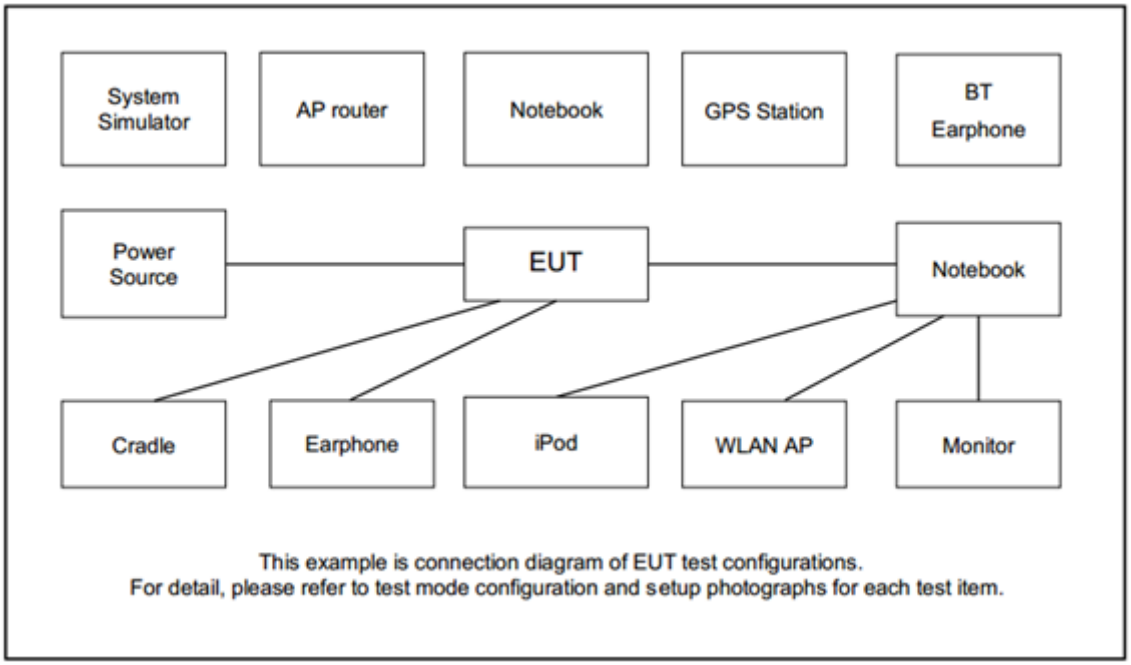
Ch. #		Band I：5180-5240 MHz	Band II：5260-5320 MHz	Band III：5500-5720MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle		-	-	144

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

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

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

2.3 Connection Diagram of Test System



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,1.8m
2.	Bluetooth Earphone	Samsung	EO-MG900	PYAHS-107W	N/A	N/A
3.	WLAN AP	D-Link	DIR-820L	KA2IR820LA1	N/A	Unshielded, 1.8 m
4.	Notebook	DELL	E540	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
5.	Earphone	Apple	DCAY1V-A9007ZJW3-000	N/A	Shielded,1.0m	N/A
6.	Earphone	Apple	MC690ZP/A	N/A	Shielded,1.0m	N/A

2.5 EUT Operation Test Setup

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

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

2.6 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example :

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 6.6 dB and 10dB attenuator.

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

= 6.6 + 10 = 16.6 (dB)

3 Test Result

3.1 26dB & 99% Occupied Bandwidth Measurement

3.1.1 Description of 26dB & 99% Occupied Bandwidth

This section is for reporting purpose only.

There is no restriction limits for bandwidth.

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

3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

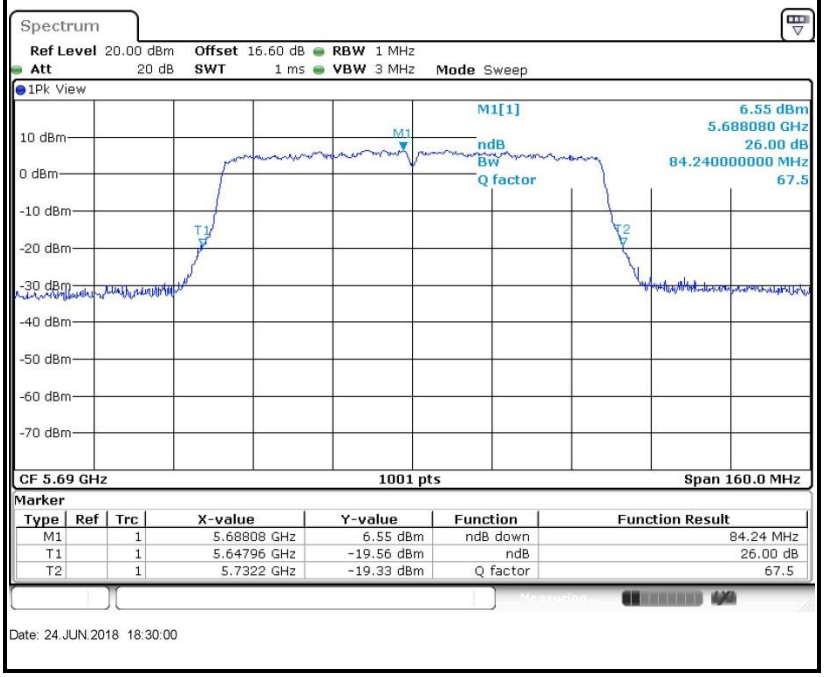
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB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

3.1.4 Test Setup

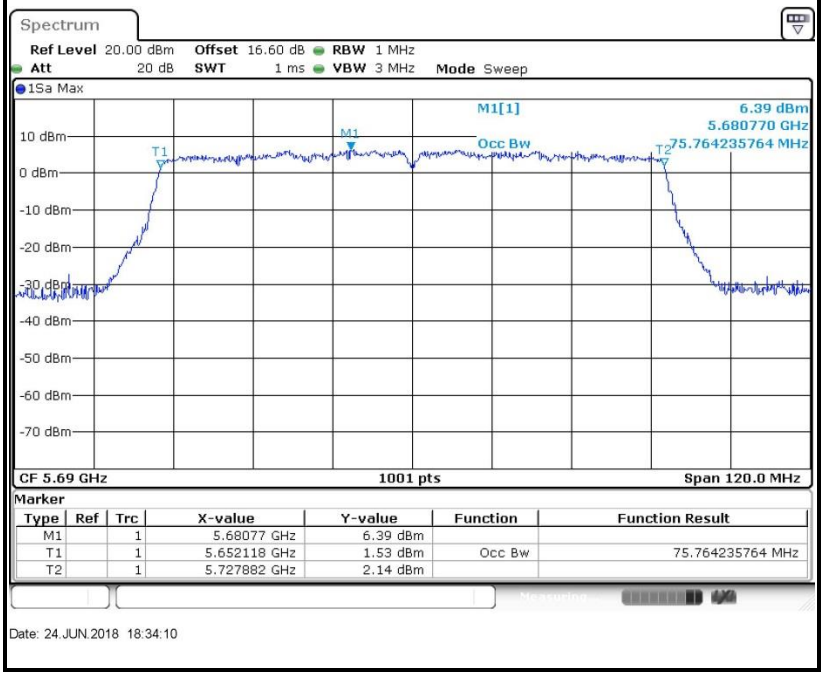
3.1.5 Test Result of 26dB & 99% Occupied Bandwidth

Please refer to Appendix A.

Maximum 26dB Bandwidth



Maximum 99% Occupied Bandwidth



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

3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

<FCC 14-30 CFR 15.407>

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

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

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

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

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

3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

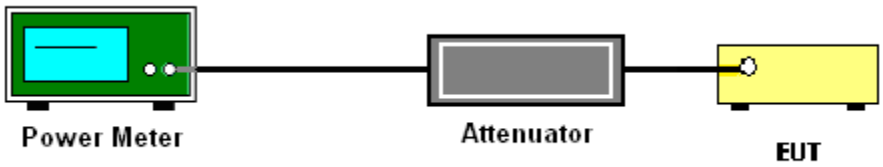
The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

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

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

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

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

<FCC 14-30 CFR 15.407>

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

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

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

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section F) Maximum power spectral density.

 # Method SA-2 #

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

- Measure the duty cycle.
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz.
- Set VBW ≥ 3 MHz.
- Number of points in sweep ≥ 2 Span / RBW.
- Sweep time = auto.
- Detector = RMS
- Trace average at least 100 traces in power averaging mode.
- Add 10 log(1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add 10 log(1/0.25) = 6 dB if the duty cycle is 25 percent.

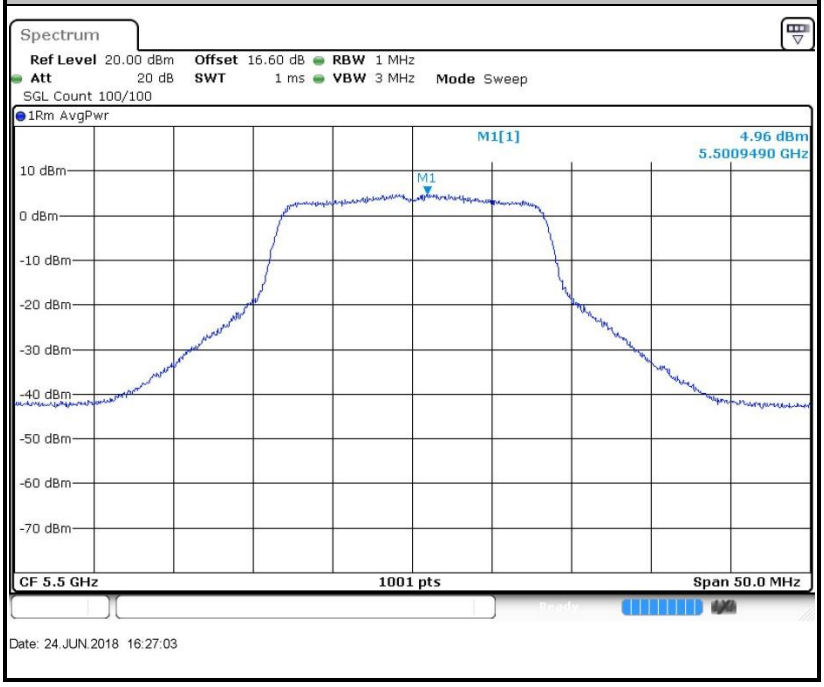
1. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
2. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.

3.3.4 Test Setup

3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

Worst Case Power Density (dBm/MHz)



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

3.4 Unwanted Emissions Measurement

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

3.4.1 Limit of Unwanted Emissions

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

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

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

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

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

EIRP (dBm)	Field Strength at 3m (dBμV/m)
- 27	68.2

Note: The following formula is used to convert the EIRP to field strength.

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

where

EIRP is the equivalent isotropically radiated power, in dBm

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

d_{Meas} is the measurement distance, in m

3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

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

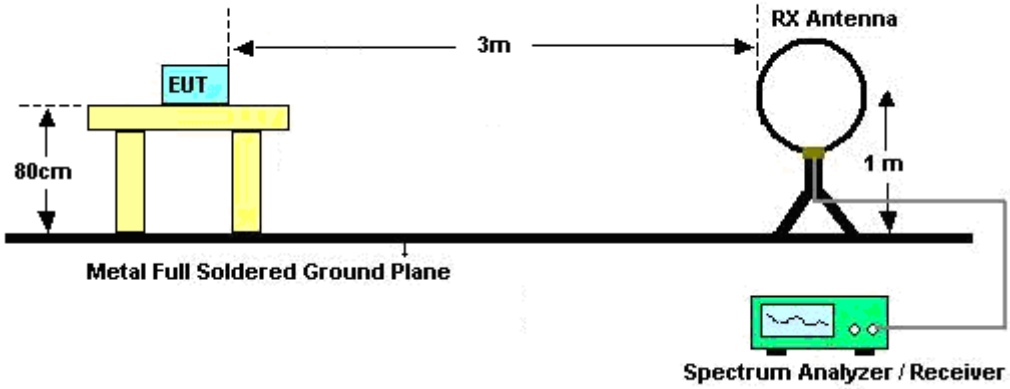
   (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
   - RBW = 120 kHz
   - VBW = 300 kHz
   - Detector = Peak
   - Trace mode = max hold

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

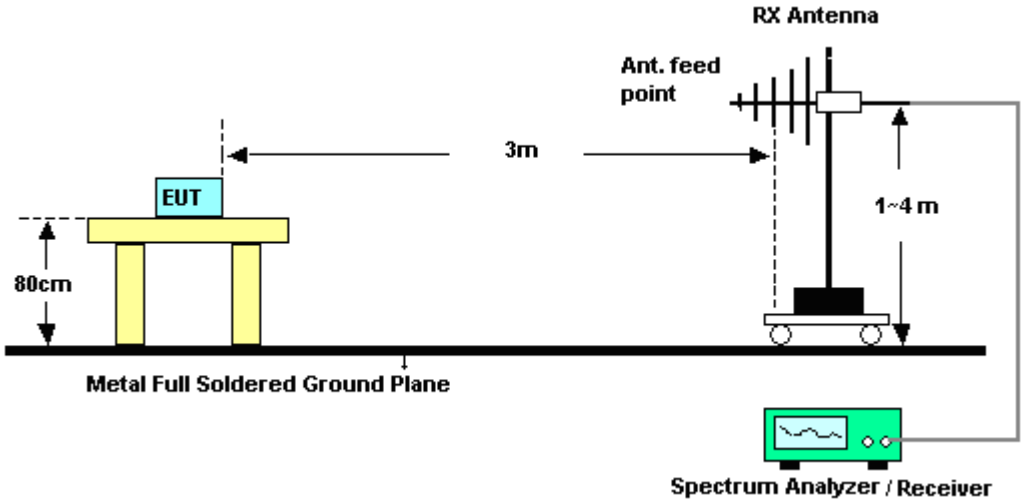
   (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz
   - RBW = 1 MHz
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting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

3.4.4 Test Setup

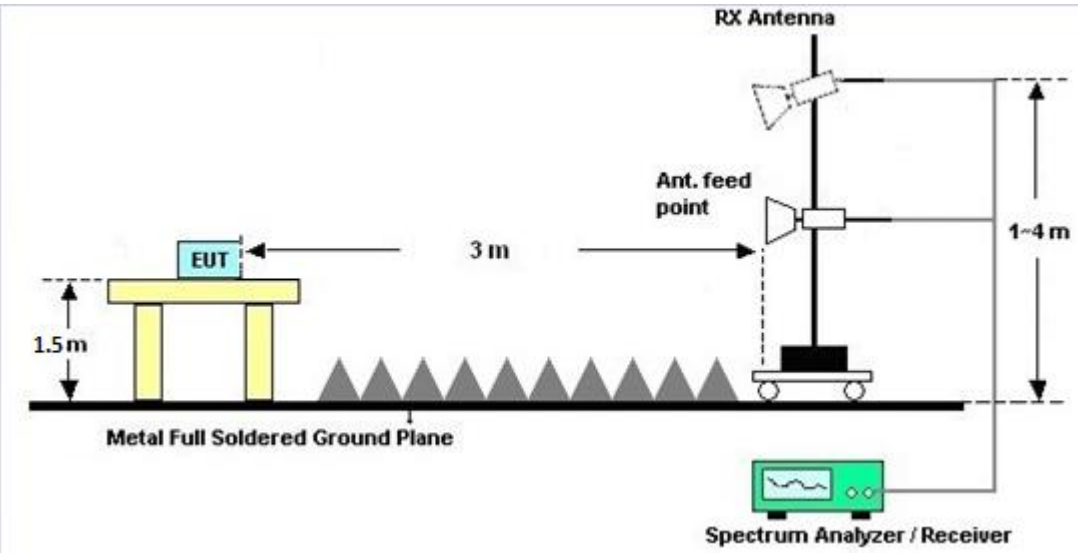
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.4.5 Test Results of Radiated Spurious Emissions (9 kHz ~ 30 MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

3.4.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C.

3.4.7 Duty Cycle

Please refer to Appendix D.

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

Please refer to Appendix C.

3.5 AC Conducted Emission Measurement

3.5.1 Limit of AC Conducted Emission

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

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

*Decreases with the logarithm of the frequency.

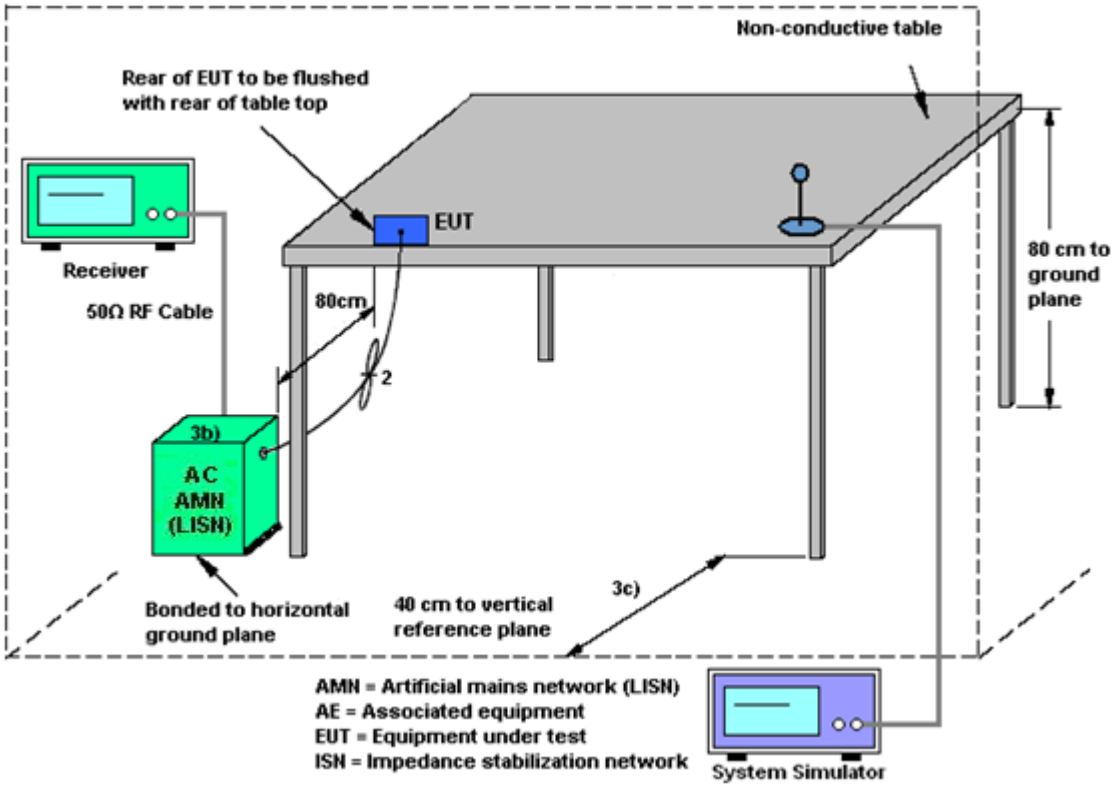
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

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

3.5.4 Test Setup



3.5.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.6 Automatically Discontinue Transmission

3.6.1 Limit of Automatically Discontinue Transmission

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

3.6.2 Measuring Instruments

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

3.6.3 Test Result of Automatically Discontinue Transmission

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

3.7 Antenna Requirements

3.7.1 Standard Applicable

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

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

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

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 19, 2018	Jun. 24, 2018	Apr. 18, 2019	Conducted (TH01-SZ)
Pulse Power Senor	Anritsu	MA2411B	1207253	30MHz~40GHz	Dec. 26, 2017	Jun. 24, 2018	Dec. 25, 2018	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	50MHz Bandwidth	Dec. 26, 2017	Jun. 24, 2018	Dec. 25, 2018	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 20, 2017	Jun. 24, 2018	Jul. 19, 2018	Conducted (TH01-SZ)
Spectrum Analyzer	R&S	FSV40	101041	10kHz~40GHz; Max 30dBm	Oct. 19, 2017	Jun. 10, 2018	Oct. 18, 2018	Radiation (03CH02-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	May 14, 2018	Jun. 10, 2018	May 13, 2019	Radiation (03CH02-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz-2GHz	May 10, 2018	Jun. 10, 2018	May 09, 2019	Radiation (03CH02-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1285	1GHz~18GHz	Dec. 13, 2017	Jun. 10, 2018	Dec. 12, 2018	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 21, 2017	Jun. 10, 2018	Jul. 20, 2018	Radiation (03CH02-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Mar. 30, 2018	Jun. 10, 2018	Mar. 29, 2019	Radiation (03CH02-SZ)
LF Amplifier	Burgeon	BPA-530	102211	0.01~3000Mhz	Oct. 19, 2017	Jun. 10, 2018	Oct. 18, 2018	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1707137	1GHz~18GHz	Oct. 19, 2017	Jun. 10, 2018	Oct. 18, 2018	Radiation (03CH02-SZ)
AC Power Source	Chroma	61601	616010002470	N/A	NCR	Jun. 10, 2018	NCR	Radiation (03CH02-SZ)
Turn Table	Chaintek	T-200	N/A	0~360 degree	NCR	Jun. 10, 2018	NCR	Radiation (03CH02-SZ)
Antenna Mast	Chaintek	MBS-400	N/A	1 m~4 m	NCR	Jun. 10, 2018	NCR	Radiation (03CH02-SZ)
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Dec. 26, 2017	Jun. 19, 2018	Dec. 25, 2018	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103912	9kHz~30MHz	Dec. 26, 2017	Jun. 19, 2018	Dec. 25, 2018	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	MessTec	3816/2SH	00103892	9kHz~30MHz	Nov. 01, 2017	Jun. 19, 2018	Oct. 31, 2018	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Jul. 19, 2017	Jun. 19, 2018	Jul. 18, 2018	Conduction (CO01-SZ)

NCR: No Calibration Required

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.6dB**

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

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

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

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

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.4dB**

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Sam Zheng	Temperature:	24~26	°C
Test Date:	2018/6/24	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	17.68	23.63	-	22.48		
11a	6Mbps	1	44	5220	17.78	23.98	-	22.50		
11a	6Mbps	1	48	5240	17.73	24.08	-	22.49		
HT20	MCS0	1	36	5180	18.83	24.63	-	22.75		
HT20	MCS0	1	44	5220	18.83	24.88	-	22.75		
HT20	MCS0	1	48	5240	18.88	25.13	-	22.76		
HT40	MCS0	1	38	5190	36.56	41.72	-	23.01		
HT40	MCS0	1	46	5230	36.66	41.63	-	23.01		
VHT80	MCS0	1	42	5210	75.76	83.28	-	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	0.22	15.14	24.00	-2.00		Pass
11a	6Mbps	1	44	5220	0.22	15.20	24.00	-2.00		Pass
11a	6Mbps	1	48	5240	0.22	15.32	24.00	-2.00		Pass
HT20	MCS0	1	36	5180	0.24	14.96	24.00	-2.00		Pass
HT20	MCS0	1	44	5220	0.24	15.09	24.00	-2.00		Pass
HT20	MCS0	1	48	5240	0.24	15.19	24.00	-2.00		Pass
HT40	MCS0	1	38	5190	0.44	15.19	24.00	-2.00		Pass
HT40	MCS0	1	46	5230	0.44	15.06	24.00	-2.00		Pass
VHT20	MCS0	1	36	5180	0.22	14.95	24.00	-2.00		Pass
VHT20	MCS0	1	44	5220	0.22	15.01	24.00	-2.00		Pass
VHT20	MCS0	1	48	5240	0.22	15.14	24.00	-2.00		Pass
VHT40	MCS0	1	38	5190	0.46	15.17	24.00	-2.00		Pass
VHT40	MCS0	1	46	5230	0.46	15.04	24.00	-2.00		Pass
VHT80	MCS0	1	42	5210	0.83	14.93	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	0.22	4.43	11.00	-2.00		Pass
11a	6Mbps	1	44	5220	0.22	4.51	11.00	-2.00		Pass
11a	6Mbps	1	48	5240	0.22	4.50	11.00	-2.00		Pass
HT20	MCS0	1	36	5180	0.24	4.03	11.00	-2.00		Pass
HT20	MCS0	1	44	5220	0.24	4.03	11.00	-2.00		Pass
HT20	MCS0	1	48	5240	0.24	4.18	11.00	-2.00		Pass
HT40	MCS0	1	38	5190	0.44	1.39	11.00	-2.00		Pass
HT40	MCS0	1	46	5230	0.44	1.02	11.00	-2.00		Pass
VHT80	MCS0	1	42	5210	0.83	-1.94	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	17.68	23.53	23.48	29.48	23.98	
11a	6M bps	1	60	5300	17.78	24.03	23.50	29.50	23.98	
11a	6M bps	1	64	5320	17.78	24.08	23.50	29.50	23.98	
HT20	MCS 0	1	52	5260	18.83	25.23	23.75	29.75	23.98	
HT20	MCS 0	1	60	5300	18.78	24.73	23.74	29.74	23.98	
HT20	MCS 0	1	64	5320	18.78	25.23	23.74	29.74	23.98	
HT40	MCS 0	1	54	5270	36.66	41.72	23.98	30.00	23.98	
HT40	MCS 0	1	62	5310	36.66	41.72	23.98	30.00	23.98	
VHT80	MCS 0	1	58	5290	75.64	83.92	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	0.22	15.60	23.98	-2.50	26.99	Pass
11a	6M bps	1	60	5300	0.22	15.68	23.98	-2.50	26.99	Pass
11a	6M bps	1	64	5320	0.22	15.66	23.98	-2.50	26.99	Pass
HT20	MCS 0	1	52	5260	0.24	15.40	23.98	-2.50	26.99	Pass
HT20	MCS 0	1	60	5300	0.24	15.52	23.98	-2.50	26.99	Pass
HT20	MCS 0	1	64	5320	0.24	15.51	23.98	-2.50	26.99	Pass
HT40	MCS 0	1	54	5270	0.44	15.09	23.98	-2.50	26.99	Pass
HT40	MCS 0	1	62	5310	0.44	15.32	23.98	-2.50	26.99	Pass
VHT20	MCS 0	1	52	5260	0.22	15.35	23.98	-2.50	26.99	Pass
VHT20	MCS 0	1	60	5300	0.22	15.46	23.98	-2.50	26.99	Pass
VHT20	MCS 0	1	64	5320	0.22	15.47	23.98	-2.50	26.99	Pass
VHT40	MCS 0	1	54	5270	0.46	15.07	23.98	-2.50	26.99	Pass
VHT40	MCS 0	1	62	5310	0.46	15.30	23.98	-2.50	26.99	Pass
VHT80	MCS 0	1	58	5290	0.83	15.10	23.98	-2.50	26.99	Pass

TEST RESULTS DATA
Power Spectral Density

Band II										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)		Pass/Fail
11a	6M bps	1	52	5260	0.22	5.01	11.00	-2.50		Pass
11a	6M bps	1	60	5300	0.22	5.16	11.00	-2.50		Pass
11a	6M bps	1	64	5320	0.22	4.84	11.00	-2.50		Pass
HT20	MCS 0	1	52	5260	0.24	4.39	11.00	-2.50		Pass
HT20	MCS 0	1	60	5300	0.24	4.35	11.00	-2.50		Pass
HT20	MCS 0	1	64	5320	0.24	4.39	11.00	-2.50		Pass
HT40	MCS 0	1	54	5270	0.44	1.21	11.00	-2.50		Pass
HT40	MCS 0	1	62	5310	0.44	1.46	11.00	-2.50		Pass
VHT80	MCS 0	1	58	5290	0.83	-1.22	11.00	-2.50		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	17.73	24.23	23.49	29.49	23.98	
11a	6M bps	1	116	5580	17.53	23.98	23.44	29.44	23.98	
11a	6M bps	1	140	5700	17.53	24.18	23.44	29.44	23.98	
11a	6Mbps	1	144	5720	17.88	24.33	23.52	29.52	23.98	
HT20	MCS 0	1	100	5500	18.73	24.53	23.73	29.73	23.98	
HT20	MCS 0	1	116	5580	18.78	24.83	23.74	29.74	23.98	
HT20	MCS 0	1	140	5700	18.73	24.98	23.73	29.73	23.98	
HT20	MCS0	1	144	5720	18.88	25.23	23.76	29.76	23.98	
HT40	MCS 0	1	102	5510	36.66	41.81	23.98	30.00	23.98	
HT40	MCS 0	1	110	5550	36.66	41.99	23.98	30.00	23.98	
HT40	MCS 0	1	134	5670	36.66	41.90	23.98	30.00	23.98	
HT40	MCS0	1	142	5710	36.66	41.72	23.98	30.00	23.98	
VHT80	MCS 0	1	106	5530	75.76	83.28	23.98	30.00	23.98	
VHT80	MCS 0	1	122	5610	75.64	83.92	23.98	30.00	23.98	
VHT80	MCS0	1	138	5690	75.76	84.24	23.98	30.00	23.98	

TEST RESULTS DATA
Average Power Table

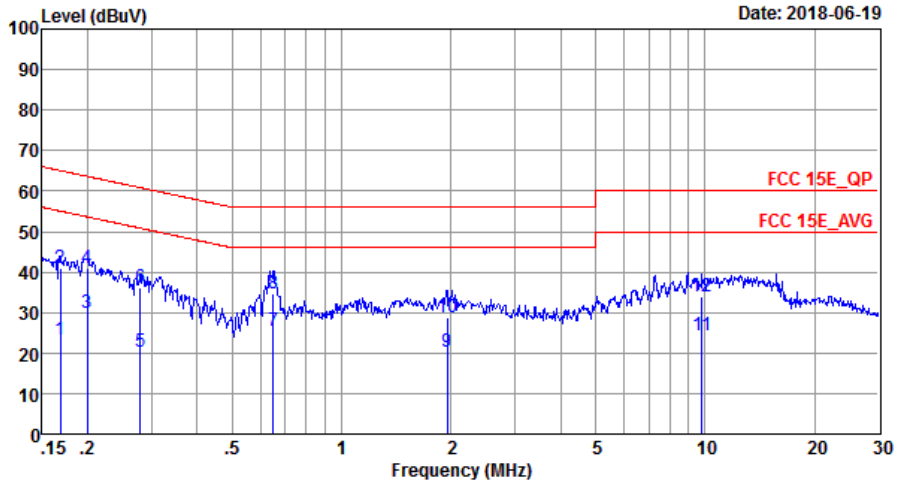
FCC Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6M bps	1	100	5500	0.22	15.60	23.98	-1.50	26.99	Pass
11a	6M bps	1	116	5580	0.22	15.59	23.98	-1.50	26.99	Pass
11a	6M bps	1	140	5700	0.22	15.46	23.98	-1.50	26.99	Pass
11a	6M bps	1	144	5720	0.22	15.51	23.98	-1.50	26.99	Pass
HT20	MCS 0	1	100	5500	0.24	15.51	23.98	-1.50	26.99	Pass
HT20	MCS 0	1	116	5580	0.24	15.42	23.98	-1.50	26.99	Pass
HT20	MCS 0	1	140	5700	0.24	15.29	23.98	-1.50	26.99	Pass
HT20	MCS 0	1	144	5720	0.24	15.36	23.98	-1.50	26.99	Pass
HT40	MCS 0	1	102	5510	0.44	15.11	23.98	-1.50	26.99	Pass
HT40	MCS 0	1	110	5550	0.44	15.19	23.98	-1.50	26.99	Pass
HT40	MCS 0	1	134	5670	0.44	15.11	23.98	-1.50	26.99	Pass
HT40	MCS 0	1	142	5710	0.44	15.14	23.98	-1.50	26.99	Pass
VHT20	MCS 0	1	100	5500	0.22	15.45	23.98	-1.50	26.99	Pass
VHT20	MCS 0	1	116	5580	0.22	15.38	23.98	-1.50	26.99	Pass
VHT20	MCS 0	1	140	5700	0.22	15.25	23.98	-1.50	26.99	Pass
VHT20	MCS 0	1	144	5720	0.22	15.32	23.98	-1.50	26.99	Pass
VHT40	MCS 0	1	102	5510	0.46	15.10	23.98	-1.50	26.99	Pass
VHT40	MCS 0	1	110	5550	0.46	15.18	23.98	-1.50	26.99	Pass
VHT40	MCS 0	1	134	5670	0.46	15.10	23.98	-1.50	26.99	Pass
VHT40	MCS 0	1	142	5710	0.46	15.11	23.98	-1.50	26.99	Pass
VHT80	MCS 0	1	106	5530	0.83	15.25	23.98	-1.50	26.99	Pass
VHT80	MCS 0	1	122	5610	0.83	15.05	23.98	-1.50	26.99	Pass
VHT80	MCS 0	1	138	5690	0.83	15.21	23.98	-1.50	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	0.22	5.18	11.00	-1.50		Pass
11a	6M bps	1	116	5580	0.22	5.11	11.00	-1.50		Pass
11a	6M bps	1	140	5700	0.22	4.66	11.00	-1.50		Pass
11a	6Mbps	1	144	5720	0.22	4.95	11.00	-1.50		Pass
HT20	MCS 0	1	100	5500	0.24	4.58	11.00	-1.50		Pass
HT20	MCS 0	1	116	5580	0.24	4.47	11.00	-1.50		Pass
HT20	MCS 0	1	140	5700	0.24	3.92	11.00	-1.50		Pass
HT20	MCS0	1	144	5720	0.24	4.13	11.00	-1.50		Pass
HT40	MCS 0	1	102	5510	0.44	1.38	11.00	-1.50		Pass
HT40	MCS 0	1	110	5550	0.44	1.37	11.00	-1.50		Pass
HT40	MCS 0	1	134	5670	0.44	1.10	11.00	-1.50		Pass
HT40	MCS0	1	142	5710	0.44	1.47	11.00	-1.50		Pass
VHT80	MCS 0	1	106	5530	0.83	-1.02	11.00	-1.50		Pass
VHT80	MCS 0	1	122	5610	0.83	-1.82	11.00	-1.50		Pass
VHT80	MCS0	1	138	5690	0.83	-1.71	11.00	-1.50		Pass

Appendix B. AC Conducted Emission Test Results

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

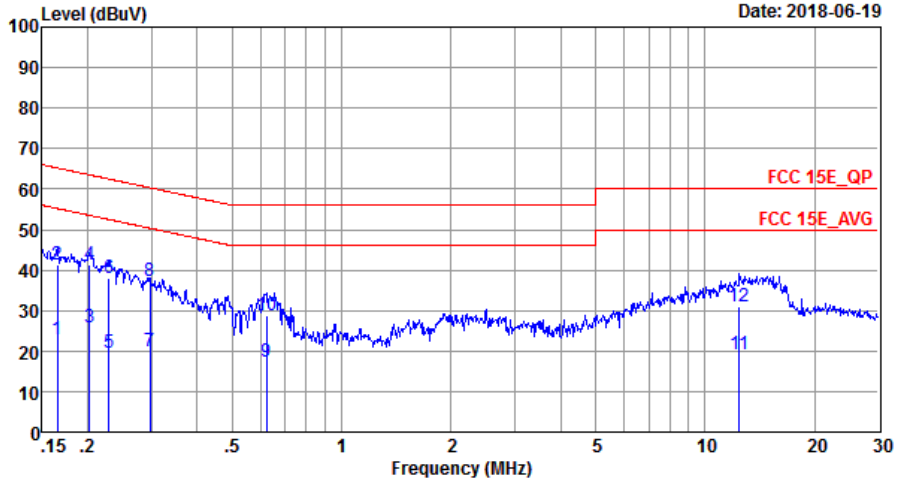


Site : CO01-SZ
Condition: FCC 15E_QP LISN_20170907_L LINE

Mode : Mode 1
IMEI : 358016090005806

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.17	23.30	-31.73	55.03	13.20	0.03	10.07	Average
2		0.17	41.10	-23.93	65.03	31.00	0.03	10.07	QP
3		0.20	30.00	-23.62	53.62	19.90	0.03	10.07	Average
4		0.20	40.80	-22.82	63.62	30.70	0.03	10.07	QP
5		0.28	20.31	-30.54	50.85	10.20	0.03	10.08	Average
6		0.28	36.01	-24.84	60.85	25.90	0.03	10.08	QP
7	*	0.65	25.30	-20.70	46.00	15.20	0.02	10.08	Average
8		0.65	34.80	-21.20	56.00	24.70	0.02	10.08	QP
9		1.95	20.32	-25.68	46.00	10.10	0.11	10.11	Average
10		1.95	28.62	-27.38	56.00	18.40	0.11	10.11	QP
11		9.81	24.49	-25.51	50.00	13.81	0.35	10.33	Average
12		9.81	33.79	-26.21	60.00	23.11	0.35	10.33	QP

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



Site : CO01-SZ
Condition: FCC 15E_QP LISN_20170907_N NEUTRAL

Mode : Mode 1
IMEI : 358016090005806

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.17	22.90	-32.31	55.21	12.80	0.03	10.07	Average
2		0.17	41.19	-24.02	65.21	31.09	0.03	10.07	QP
3		0.20	25.80	-27.69	53.49	15.70	0.03	10.07	Average
4	*	0.20	41.20	-22.29	63.49	31.10	0.03	10.07	QP
5		0.23	19.60	-32.88	52.48	9.50	0.03	10.07	Average
6		0.23	37.90	-24.58	62.48	27.80	0.03	10.07	QP
7		0.30	19.91	-30.41	50.32	9.80	0.03	10.08	Average
8		0.30	37.21	-23.11	60.32	27.10	0.03	10.08	QP
9		0.62	17.20	-28.80	46.00	7.10	0.02	10.08	Average
10		0.62	28.90	-27.10	56.00	18.80	0.02	10.08	QP
11		12.45	19.23	-30.77	50.00	8.61	0.25	10.37	Average
12		12.45	30.93	-29.07	60.00	20.31	0.25	10.37	QP

Appendix C. Radiated Spurious Emission

Test Engineer :	Reid Huang	**Temperature :**	24~25°C
		Relative Humidity :	48~49%

Band 1 - 5150~5250MHz

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 36 5180MHz		5123.5	48.43	-25.57	74	38.65	31.78	9.67	31.67	330	139	P	H
		5139.36	39.92	-14.08	54	30.1	31.78	9.71	31.67	330	139	A	H
	*	5180	100.24	-	-	90.27	31.81	9.82	31.66	330	139	P	H
	*	5180	92.11	-	-	82.14	31.81	9.82	31.66	330	139	A	H
		5023.66	48.76	-25.24	74	39.08	31.72	9.65	31.69	331	42	P	V
		5109.72	40.03	-13.97	54	30.27	31.77	9.67	31.68	331	42	A	V
	*	5180	99.09	-	-	89.12	31.81	9.82	31.66	331	42	P	V
	*	5180	90.57	-	-	80.6	31.81	9.82	31.66	331	42	A	V
802.11a CH 44 5220MHz		5052.26	49.39	-24.61	74	39.7	31.73	9.65	31.69	236	122	P	H
		5049.92	39.7	-14.3	54	30.01	31.73	9.65	31.69	236	122	A	H
	*	5220	100.48	-	-	90.41	31.83	9.89	31.65	236	122	P	H
	*	5220	92.76	-	-	82.69	31.83	9.89	31.65	236	122	A	H
		5401.48	47.67	-26.33	74	37.36	31.94	9.99	31.62	236	122	P	H
		5455.52	38.6	-15.4	54	28.18	31.97	10.06	31.61	236	122	A	H
		5099.58	48.64	-25.36	74	38.93	31.76	9.63	31.68	331	42	P	V
		5076.96	39.77	-14.23	54	30.06	31.75	9.64	31.68	331	42	A	V
	*	5220	99.08	-	-	89.01	31.83	9.89	31.65	331	42	P	V
	*	5220	90.4	-	-	80.33	31.83	9.89	31.65	331	42	A	V
		5426.96	46.9	-27.1	74	36.56	31.95	10.01	31.62	331	42	P	V
		5444.04	38.68	-15.32	54	28.29	31.96	10.04	31.61	331	42	A	V

802.11a CH 48 5240MHz		5110.24	48.31	-25.69	74	38.55	31.77	9.67	31.68	233	122	P	H
		5043.42	39.84	-14.16	54	30.15	31.73	9.65	31.69	233	122	A	H
	*	5240	100.45	-	-	90.33	31.84	9.93	31.65	233	122	P	H
	*	5240	92.78	-	-	82.66	31.84	9.93	31.65	233	122	A	H
		5450.2	46.75	-27.25	74	36.33	31.97	10.06	31.61	233	122	P	H
		5446.84	38.79	-15.21	54	28.39	31.97	10.04	31.61	233	122	A	H
		5078.78	48.02	-25.98	74	38.31	31.75	9.64	31.68	310	51	P	V
		5026.78	39.8	-14.2	54	30.12	31.72	9.65	31.69	310	51	A	V
	*	5240	99.18	-	-	89.06	31.84	9.93	31.65	310	51	P	V
	*	5240	90.72	-	-	80.6	31.84	9.93	31.65	310	51	A	V
		5385.8	46.42	-27.58	74	36.11	31.93	10	31.62	310	51	P	V
		5449.08	38.6	-15.4	54	28.18	31.97	10.06	31.61	310	51	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	49.93	-24.07	74	52.04	39.27	14.47	55.85	152	260	P	H
		15540	49.8	-24.2	74	49.81	39.02	17.7	56.73	189	238	P	H
		10360	49.38	-24.62	74	51.49	39.27	14.47	55.85	152	260	P	V
		15540	49.96	-24.04	74	49.97	39.02	17.7	56.73	189	238	P	V
802.11a CH 44 5220MHz		10440	49.32	-24.68	74	51.43	39.33	14.44	55.88	150	230	P	H
		15660	49.49	-24.51	74	49.02	38.73	18.23	56.49	160	225	P	H
		10440	50.04	-23.96	74	52.15	39.33	14.44	55.88	150	230	P	V
		15660	49.73	-24.27	74	49.26	38.73	18.23	56.49	160	225	P	V
802.11a CH 48 5240MHz		10480	49.54	-24.46	74	51.61	39.38	14.45	55.9	150	289	P	H
		15720	49.62	-24.38	74	49.01	38.56	18.4	56.35	150	291	P	H
		10480	49.83	-24.17	74	51.9	39.38	14.45	55.9	150	289	P	V
		15720	49.99	-24.01	74	49.38	38.56	18.4	56.35	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)
		5088.14	47.96	-26.04	74	38.25	31.75	9.64	31.68	332	138	P	H
		5066.82	39.88	-14.12	54	30.18	31.74	9.64	31.68	332	138	A	H
802.11n	*	5180	99.73	-	-	89.76	31.81	9.82	31.66	332	138	P	H
HT20	*	5180	92.3	-	-	82.33	31.81	9.82	31.66	332	138	A	H
CH 36		5111.8	48.16	-25.84	74	38.4	31.77	9.67	31.68	334	50	P	V
5180MHz		5105.04	39.9	-14.1	54	30.19	31.76	9.63	31.68	334	50	A	V
	*	5180	98.07	-	-	88.1	31.81	9.82	31.66	334	50	P	V
	*	5180	90.15	-	-	80.18	31.81	9.82	31.66	334	50	A	V
		5100.62	48.27	-25.73	74	38.56	31.76	9.63	31.68	123	42	P	H
		5068.38	39.82	-14.18	54	30.12	31.74	9.64	31.68	123	42	A	H
	*	5220	99.63	-	-	89.56	31.83	9.89	31.65	123	42	P	H
	*	5220	91.29	-	-	81.22	31.83	9.89	31.65	123	42	A	H
802.11n		5387.2	47.06	-26.94	74	36.75	31.93	10	31.62	123	42	P	H
HT20		5437.6	38.65	-15.35	54	28.26	31.96	10.04	31.61	123	42	A	H
CH 44		5126.36	48.74	-25.26	74	38.92	31.78	9.71	31.67	329	52	P	V
5220MHz		5099.32	39.81	-14.19	54	30.1	31.76	9.63	31.68	329	52	A	V
	*	5220	97.81	-	-	87.74	31.83	9.89	31.65	329	52	P	V
	*	5220	89.19	-	-	79.12	31.83	9.89	31.65	329	52	A	V
		5426.12	46.44	-27.56	74	36.1	31.95	10.01	31.62	329	52	P	V
		5447.96	38.55	-15.45	54	28.13	31.97	10.06	31.61	329	52	A	V

		5000.78	48.88	-25.12	74	39.23	31.7	9.65	31.7	351	178	P	H
		5048.62	39.73	-14.27	54	30.04	31.73	9.65	31.69	351	178	A	H
	*	5240	99.39	-	-	89.27	31.84	9.93	31.65	351	178	P	H
	*	5240	92.23	-	-	82.11	31.84	9.93	31.65	351	178	A	H
802.11n		5455.92	47.3	-26.7	74	36.88	31.97	10.06	31.61	351	178	P	H
HT20		5456.88	38.71	-15.29	54	28.29	31.97	10.06	31.61	351	178	A	H
CH 48		5144.82	49.24	-24.76	74	39.38	31.79	9.74	31.67	329	52	P	V
5240MHz		5107.12	39.82	-14.18	54	30.06	31.77	9.67	31.68	329	52	A	V
	*	5240	97.37	-	-	87.25	31.84	9.93	31.65	329	52	P	V
	*	5240	89.45	-	-	79.33	31.84	9.93	31.65	329	52	A	V
		5445.84	47.71	-26.29	74	37.31	31.97	10.04	31.61	329	52	P	V
		5455.2	38.67	-15.33	54	28.25	31.97	10.06	31.61	329	52	A	V

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

Band 1 5150~5250MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		10360	49.83	-24.17	74	51.94	39.27	14.47	55.85	152	260	P	H
HT20		15540	50.71	-23.29	74	50.72	39.02	17.7	56.73	189	238	P	H
CH 36		10360	49.36	-24.64	74	51.47	39.27	14.47	55.85	152	260	P	V
5180MHz		15540	50.7	-23.3	74	50.71	39.02	17.7	56.73	189	238	P	V
802.11n		10440	49.66	-24.34	74	51.77	39.33	14.44	55.88	150	230	P	H
HT20		15660	50.31	-23.69	74	49.84	38.73	18.23	56.49	160	225	P	H
CH 44		10440	49.81	-24.19	74	51.92	39.33	14.44	55.88	150	230	P	V
5220MHz		15660	50.53	-23.47	74	50.06	38.73	18.23	56.49	160	225	P	V
802.11n		10480	50.26	-23.74	74	52.33	39.38	14.45	55.9	150	289	P	H
HT20		15720	50.62	-23.38	74	50.01	38.56	18.4	56.35	150	291	P	H
CH 48		10480	50.63	-23.37	74	52.7	39.38	14.45	55.9	150	289	P	V
5240MHz		15720	50.83	-23.17	74	50.22	38.56	18.4	56.35	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		5126.36	50.57	-23.43	74	40.75	31.78	9.71	31.67	231	166	P	H
		5149.5	41.47	-12.53	54	31.61	31.79	9.74	31.67	231	166	A	H
	*	5190	97.4	-	-	87.43	31.81	9.82	31.66	231	166	P	H
	*	5190	88.7	-	-	78.73	31.81	9.82	31.66	231	166	A	H
		5413.52	47.66	-26.34	74	37.32	31.95	10.01	31.62	231	166	P	H
		5415.2	39.4	-14.6	54	29.06	31.95	10.01	31.62	231	166	A	H
		5080.6	48.08	-25.92	74	38.37	31.75	9.64	31.68	211	130	P	V
		5052.78	40.78	-13.22	54	31.1	31.73	9.64	31.69	211	130	A	V
	*	5190	92.45	-	-	82.48	31.81	9.82	31.66	211	130	P	V
	*	5190	84.34	-	-	74.37	31.81	9.82	31.66	211	130	A	V
		5441.52	46.65	-27.35	74	36.26	31.96	10.04	31.61	211	130	P	V
		5416.04	39.11	-14.89	54	28.77	31.95	10.01	31.62	211	130	A	V
802.11n HT40 CH 46 5230MHz		5134.94	49.07	-24.93	74	39.25	31.78	9.71	31.67	221	166	P	H
		5041.34	40.47	-13.53	54	30.78	31.73	9.65	31.69	221	166	A	H
	*	5230	96.86	-	-	86.78	31.84	9.89	31.65	221	166	P	H
	*	5230	87.6	-	-	77.52	31.84	9.89	31.65	221	166	A	H
		5435.08	47.37	-26.63	74	36.98	31.96	10.04	31.61	221	166	P	H
		5446.28	39.26	-14.74	54	28.86	31.97	10.04	31.61	221	166	A	H
		5026.78	48.2	-25.8	74	38.52	31.72	9.65	31.69	340	46	P	V
		5088.14	40.45	-13.55	54	30.74	31.75	9.64	31.68	340	46	A	V
	*	5230	93.64	-	-	83.56	31.84	9.89	31.65	340	46	P	V
	*	5230	86.15	-	-	76.07	31.84	9.89	31.65	340	46	A	V
		5398.68	47.69	-26.31	74	37.38	31.94	9.99	31.62	340	46	P	V
		5438.44	39.23	-14.77	54	28.84	31.96	10.04	31.61	340	46	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	50.05	-23.95	74	52.18	39.28	14.45	55.86	150	360	P	H
HT40		15570	50.46	-23.54	74	50.37	38.93	17.82	56.66	155	360	P	H
CH 38		10380	50.05	-23.95	74	52.18	39.28	14.45	55.86	150	360	P	V
5190MHz		15570	50.19	-23.81	74	50.1	38.93	17.82	56.66	155	360	P	V
802.11n		10460	50.61	-23.39	74	52.7	39.35	14.44	55.88	150	360	P	H
HT40		15690	50.25	-23.75	74	49.73	38.64	18.3	56.42	150	225	P	H
CH 46		10460	50.41	-23.59	74	52.5	39.35	14.44	55.88	150	360	P	V
5230MHz		15690	50.43	-23.57	74	49.91	38.64	18.3	56.42	150	225	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 42 5210MHz		5117.52	48.84	-25.16	74	39.07	31.77	9.67	31.67	220	122	P	H
		5145.08	41.1	-12.9	54	31.24	31.79	9.74	31.67	220	122	A	H
	*	5210	94.83	-	-	84.8	31.83	9.86	31.66	220	122	P	H
	*	5210	85.92	-	-	75.89	31.83	9.86	31.66	220	122	A	H
		5421.6	46.55	-27.45	74	36.21	31.95	10.01	31.62	220	122	P	H
		5449.2	39.25	-14.75	54	28.83	31.97	10.06	31.61	220	122	A	H
		5140.14	50.04	-23.96	74	40.21	31.79	9.71	31.67	319	54	P	V
		5144.82	41.75	-12.25	54	31.89	31.79	9.74	31.67	319	54	A	V
	*	5210	93.08	-	-	83.05	31.83	9.86	31.66	319	54	P	V
	*	5210	84.28	-	-	74.25	31.83	9.86	31.66	319	54	A	V
		5437.44	47.07	-26.93	74	36.68	31.96	10.04	31.61	319	54	P	V
		5422.08	39.3	-14.7	54	28.96	31.95	10.01	31.62	319	54	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac		10420	49.98	-24.02	74	52.1	39.32	14.43	55.87	146	210	P	H
VHT80		15630	50.38	-23.62	74	50.11	38.77	18.02	56.52	156	190	P	H
CH 42		10420	49.75	-24.25	74	51.87	39.32	14.43	55.87	159	230	P	V
5210MHz		15630	50.22	-23.78	74	49.95	38.77	18.02	56.52	169	250	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		5059.5	49.38	-24.62	74	39.69	31.74	9.64	31.69	234	123	P	H
		5050.75	39.88	-14.12	54	30.19	31.73	9.65	31.69	234	123	A	H
	*	5260	100.81	-	-	90.6	31.86	10	31.65	234	123	P	H
	*	5260	92.54	-	-	82.33	31.86	10	31.65	234	123	A	H
		5371.68	46.57	-27.43	74	36.26	31.92	10.02	31.63	234	123	P	H
		5448.96	38.97	-15.03	54	28.55	31.97	10.06	31.61	234	123	A	H
		5056	47.87	-26.13	74	38.18	31.74	9.64	31.69	337	75	P	V
		5053.2	40.06	-13.94	54	30.38	31.73	9.64	31.69	337	75	A	V
	*	5260	98.73	-	-	88.52	31.86	10	31.65	337	75	P	V
	*	5260	90.43	-	-	80.22	31.86	10	31.65	337	75	A	V
		5366.4	48.31	-25.69	74	38	31.92	10.02	31.63	337	75	P	V
		5454	38.82	-15.18	54	28.4	31.97	10.06	31.61	337	75	A	V
802.11a CH 60 5300MHz		5007.35	48.32	-25.68	74	38.66	31.71	9.65	31.7	317	178	P	H
		5057.05	39.74	-14.26	54	30.05	31.74	9.64	31.69	317	178	A	H
	*	5300	101.26	-	-	90.95	31.88	10.07	31.64	317	178	P	H
	*	5300	93.75	-	-	83.44	31.88	10.07	31.64	317	178	A	H
		5431.68	48.51	-25.49	74	38.12	31.96	10.04	31.61	317	178	P	H
		5352.48	39.19	-14.81	54	28.88	31.91	10.03	31.63	317	178	A	H
		5144.9	48.98	-25.02	74	39.12	31.79	9.74	31.67	267	74	P	V
		5055.3	39.88	-14.12	54	30.19	31.74	9.64	31.69	267	74	A	V
	*	5300	97.39	-	-	87.08	31.88	10.07	31.64	267	74	P	V
	*	5300	89.4	-	-	79.09	31.88	10.07	31.64	267	74	A	V
		5434.32	46.46	-27.54	74	36.07	31.96	10.04	31.61	267	74	P	V
		5359.2	38.93	-15.07	54	28.63	31.91	10.02	31.63	267	74	A	V

802.11a CH 64 5320MHz	*	5320	101.12	-	-	90.81	31.89	10.06	31.64	312	179	P	H
	*	5320	92.52	-	-	82.21	31.89	10.06	31.64	312	179	A	H
		5364.48	48.36	-25.64	74	38.05	31.92	10.02	31.63	312	179	P	H
		5369.92	39.56	-14.44	54	29.25	31.92	10.02	31.63	312	179	A	H
	*	5320	97.82	-	-	87.51	31.89	10.06	31.64	326	64	P	V
	*	5320	91.02	-	-	80.71	31.89	10.06	31.64	326	64	A	V
		5366.24	48.45	-25.55	74	38.14	31.92	10.02	31.63	326	64	P	V
		5355.04	39.07	-14.93	54	28.76	31.91	10.03	31.63	326	64	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 52 5260MHz		10520	50.2	-23.8	74	52.25	39.42	14.44	55.91	150	220	P	H
		15780	48.87	-25.13	74	48.19	38.44	18.49	56.25	159	345	P	H
		10520	49.53	-24.47	74	51.58	39.42	14.44	55.91	150	220	P	V
		15780	50.05	-23.95	74	49.37	38.44	18.49	56.25	159	345	P	V
802.11a CH 60 5300MHz		10600	49.14	-24.86	74	51.16	39.52	14.4	55.94	185	215	P	H
		15900	49.45	-24.55	74	48.3	38.15	19.01	56.01	196	190	P	H
		10600	49.88	-24.12	74	51.9	39.52	14.4	55.94	185	215	P	V
		15900	50.66	-23.34	74	49.51	38.15	19.01	56.01	196	190	P	V
802.11a CH 64 5320MHz		10640	49.51	-24.49	74	51.43	39.57	14.47	55.96	150	360	P	H
		15960	50.18	-23.82	74	49.1	37.98	18.97	55.87	173	245	P	H
		10640	50.1	-23.9	74	52.02	39.57	14.47	55.96	152	135	P	V
		15960	49.8	-24.2	74	48.72	37.98	18.97	55.87	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)
		5016.12	48.68	-25.32	74	39.01	31.71	9.65	31.69	351	178	P	H
		5039	39.85	-14.15	54	30.16	31.73	9.65	31.69	351	178	A	H
	*	5260	99.68	-	-	89.47	31.86	10	31.65	351	178	P	H
	*	5260	91.43	-	-	81.22	31.86	10	31.65	351	178	A	H
802.11n		5448.24	47.81	-26.19	74	37.39	31.97	10.06	31.61	351	178	P	H
HT20		5448.96	38.68	-15.32	54	28.26	31.97	10.06	31.61	351	178	A	H
CH 52		5026.78	48.62	-25.38	74	38.94	31.72	9.65	31.69	344	55	P	V
5260MHz		5116.74	40.08	-13.92	54	30.31	31.77	9.67	31.67	344	55	A	V
	*	5260	98.4	-	-	88.19	31.86	10	31.65	344	55	P	V
	*	5260	90.71	-	-	80.5	31.86	10	31.65	344	55	A	V
		5375.52	46.96	-27.04	74	36.64	31.92	10.02	31.62	344	55	P	V
		5355.12	38.62	-15.38	54	28.31	31.91	10.03	31.63	344	55	A	V
		5102.2	49.02	-24.98	74	39.31	31.76	9.63	31.68	327	169	P	H
		5043.75	40.09	-13.91	54	30.4	31.73	9.65	31.69	327	169	A	H
	*	5300	100.64	-	-	90.33	31.88	10.07	31.64	327	169	P	H
	*	5300	92.76	-	-	82.45	31.88	10.07	31.64	327	169	A	H
802.11n		5365.92	48.66	-25.34	74	38.35	31.92	10.02	31.63	327	169	P	H
HT20		5350.56	39.87	-14.13	54	29.56	31.91	10.03	31.63	327	169	A	H
CH 60		5023.8	48.26	-25.74	74	38.58	31.72	9.65	31.69	344	55	P	V
5300MHz		5077.7	39.89	-14.11	54	30.18	31.75	9.64	31.68	344	55	A	V
	*	5300	98.28	-	-	87.97	31.88	10.07	31.64	344	55	P	V
	*	5300	90.71	-	-	80.4	31.88	10.07	31.64	344	55	A	V
		5426.64	48.16	-25.84	74	37.82	31.95	10.01	31.62	344	55	P	V
		5351.04	39.21	-14.79	54	28.9	31.91	10.03	31.63	344	55	A	V

802.11n HT20 CH 64 5320MHz	*	5320	100.66	-	-	90.35	31.89	10.06	31.64	327	169	P	H
	*	5320	92.97	-	-	82.66	31.89	10.06	31.64	327	169	A	H
		5404.64	48.44	-25.56	74	38.13	31.94	9.99	31.62	327	169	P	H
		5360.48	39.91	-14.09	54	29.61	31.91	10.02	31.63	327	169	A	H
	*	5320	99.07	-	-	88.76	31.89	10.06	31.64	335	53	P	V
	*	5320	91.53	-	-	81.22	31.89	10.06	31.64	335	53	A	V
		5357.6	48.27	-25.73	74	37.96	31.91	10.03	31.63	335	53	P	V
		5350.88	39.18	-14.82	54	28.87	31.91	10.03	31.63	335	53	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	50.23	-23.77	74	52.28	39.42	14.44	55.91	150	220	P	H
HT20		15780	50.19	-23.81	74	49.51	38.44	18.49	56.25	159	345	P	H
CH 52		10520	50.83	-23.17	74	52.88	39.42	14.44	55.91	150	220	P	V
5260MHz		15780	50.46	-23.54	74	49.78	38.44	18.49	56.25	159	345	P	V
802.11n		10600	50.27	-23.73	74	52.29	39.52	14.4	55.94	185	215	P	H
HT20		15900	50.33	-23.67	74	49.18	38.15	19.01	56.01	196	190	P	H
CH 60		10600	50.02	-23.98	74	52.04	39.52	14.4	55.94	185	215	P	V
5300MHz		15900	50.59	-23.41	74	49.44	38.15	19.01	56.01	196	190	P	V
802.11n		10640	50.01	-23.99	74	51.93	39.57	14.47	55.96	152	135	P	H
HT20		15960	49.97	-24.03	74	48.89	37.98	18.97	55.87	173	245	P	H
CH 64		10640	50.18	-23.82	74	52.1	39.57	14.47	55.96	152	135	P	V
5320MHz		15960	50.27	-23.73	74	49.19	37.98	18.97	55.87	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		5011.9	48.48	-25.52	74	38.81	31.71	9.65	31.69	221	161	P	H
		5066.5	40.49	-13.51	54	30.79	31.74	9.64	31.68	221	161	A	H
	*	5270	97.83	-	-	87.59	31.86	10.03	31.65	221	161	P	H
	*	5270	87.51	-	-	77.27	31.86	10.03	31.65	221	161	A	H
		5365.44	48.72	-25.28	74	38.41	31.92	10.02	31.63	221	161	P	H
		5355.6	39.99	-14.01	54	29.68	31.91	10.03	31.63	221	161	A	H
		5059.85	48.53	-25.47	74	38.84	31.74	9.64	31.69	374	42	P	V
		5059.85	40.63	-13.37	54	30.94	31.74	9.64	31.69	374	42	A	V
	*	5270	96.28	-	-	86.04	31.86	10.03	31.65	374	42	P	V
	*	5270	86.78	-	-	76.54	31.86	10.03	31.65	374	42	A	V
		5449.2	46.72	-27.28	74	36.3	31.97	10.06	31.61	374	42	P	V
		5447.76	39.58	-14.42	54	29.18	31.97	10.04	31.61	374	42	A	V
802.11n HT40 CH 62 5310MHz		5017.5	49.19	-24.81	74	39.52	31.71	9.65	31.69	239	160	P	H
		5059.5	40.63	-13.37	54	30.94	31.74	9.64	31.69	239	160	A	H
	*	5310	97.31	-	-	87	31.89	10.06	31.64	239	160	P	H
	*	5310	88.99	-	-	78.68	31.89	10.06	31.64	239	160	A	H
		5350.08	47.69	-26.31	74	37.38	31.91	10.03	31.63	239	160	P	H
		5350.8	41.33	-12.67	54	31.02	31.91	10.03	31.63	239	160	A	H
		5142.1	48.24	-25.76	74	38.41	31.79	9.71	31.67	366	41	P	V
		5059.85	40.62	-13.38	54	30.93	31.74	9.64	31.69	366	41	A	V
	*	5310	95.09	-	-	84.78	31.89	10.06	31.64	366	41	P	V
	*	5310	86.98	-	-	76.67	31.89	10.06	31.64	366	41	A	V
		5440.56	47.33	-26.67	74	36.94	31.96	10.04	31.61	366	41	P	V
		5351.28	40.38	-13.62	54	30.07	31.91	10.03	31.63	366	41	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		10540	50.08	-23.92	74	52.13	39.44	14.43	55.92	150	220	P	H
HT40		15810	50.51	-23.49	74	49.78	38.36	18.55	56.18	168	345	P	H
CH 54		10540	50.06	-23.94	74	52.11	39.44	14.43	55.92	150	220	P	V
5270MHz		15810	50	-24	74	49.27	38.36	18.55	56.18	168	345	P	V
802.11n		10620	50.62	-23.38	74	52.6	39.54	14.43	55.95	150	220	P	H
HT40		15930	50.58	-23.42	74	49.47	38.07	18.98	55.94	160	100	P	H
CH 62		10620	50.34	-23.66	74	52.32	39.54	14.43	55.95	150	220	P	V
5310MHz		15930	50.29	-23.71	74	49.18	38.07	18.98	55.94	160	100	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 58 5290MHz		5041.86	48.15	-25.85	74	38.46	31.73	9.65	31.69	294	156	P	H
		5040.56	40.66	-13.34	54	30.97	31.73	9.65	31.69	294	156	A	H
	*	5290	95.53	-	-	85.23	31.87	10.07	31.64	294	156	P	H
	*	5290	86.73	-	-	76.43	31.87	10.07	31.64	294	156	A	H
		5356.32	51.87	-22.13	74	41.56	31.91	10.03	31.63	294	156	P	H
		5350.56	43.35	-10.65	54	33.04	31.91	10.03	31.63	294	156	A	H
		5074.62	48.11	-25.89	74	38.4	31.75	9.64	31.68	355	56	P	V
		5008.84	40.51	-13.49	54	30.85	31.71	9.65	31.7	355	56	A	V
	*	5290	94.4	-	-	84.1	31.87	10.07	31.64	355	56	P	V
	*	5290	86.27	-	-	75.97	31.87	10.07	31.64	355	56	A	V
		5354.88	50.01	-23.99	74	39.7	31.91	10.03	31.63	355	56	P	V
		5355.12	41.53	-12.47	54	31.22	31.91	10.03	31.63	355	56	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac		10580	50.06	-23.94	74	52.09	39.5	14.41	55.94	140	180	P	H
VHT80		15870	50.48	-23.52	74	49.5	38.19	18.83	56.04	140	200	P	H
CH 58		10580	50.58	-23.42	74	52.61	39.5	14.41	55.94	120	220	P	V
5290MHz		15870	50.96	-23.04	74	49.98	38.19	18.83	56.04	140	230	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		5462.64	48.07	-25.93	74	37.64	31.98	10.06	31.61	222	148	P	H
		5468.24	39.52	-14.48	54	29.07	31.98	10.08	31.61	222	148	A	H
	*	5500	101.88	-	-	91.37	32	10.11	31.6	222	148	P	H
	*	5500	93.88	-	-	83.37	32	10.11	31.6	222	148	A	H
		5463.76	48.89	-25.11	74	38.46	31.98	10.06	31.61	175	59	P	V
		5466.32	39.34	-14.66	54	28.89	31.98	10.08	31.61	175	59	A	V
	*	5500	98.19	-	-	87.68	32	10.11	31.6	175	59	P	V
	*	5500	90.74	-	-	80.23	32	10.11	31.6	175	59	A	V
802.11a CH 116 5580MHz		5362	47.64	-26.36	74	37.33	31.92	10.02	31.63	211	132	P	H
		5467.84	38.94	-15.06	54	28.49	31.98	10.08	31.61	211	132	A	H
	*	5580	101.37	-	-	90.62	32.12	10.23	31.6	211	132	P	H
	*	5580	94.02	-	-	83.27	32.12	10.23	31.6	211	132	A	H
		5741.69	47.69	-26.31	74	36.5	32.43	10.36	31.6	211	132	P	H
		5756.81	40.2	-13.8	54	28.96	32.47	10.37	31.6	211	132	A	H
		5416	48.41	-25.59	74	38.07	31.95	10.01	31.62	217	198	P	V
		5463.04	38.68	-15.32	54	28.25	31.98	10.06	31.61	217	198	A	V
	*	5580	97.72	-	-	86.97	32.12	10.23	31.6	217	198	P	V
	*	5580	90.04	-	-	79.29	32.12	10.23	31.6	217	198	A	V
		5765	47.4	-26.6	74	36.16	32.47	10.37	31.6	217	198	P	V
		5734.13	39.87	-14.13	54	28.72	32.4	10.35	31.6	217	198	A	V

802.11a CH 140 5700MHz	*	5700	101.79	-	-	90.71	32.34	10.34	31.6	150	102	P	H
	*	5700	94.74	-	-	83.66	32.34	10.34	31.6	150	102	A	H
		5740.36	50.9	-23.1	74	39.71	32.43	10.36	31.6	150	102	P	H
		5725.24	41.27	-12.73	54	30.12	32.4	10.35	31.6	150	102	A	H
	*	5700	99.87	-	-	88.79	32.34	10.34	31.6	139	70	P	V
	*	5700	92.41	-	-	81.33	32.34	10.34	31.6	139	70	A	V
		5739.32	50.53	-23.47	74	39.34	32.43	10.36	31.6	139	70	P	V
		5737.8	40.49	-13.51	54	29.3	32.43	10.36	31.6	139	70	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	49.71	-24.29	74	51.02	40	14.79	56.1	163	230	P	H
		16500	50.17	-23.83	74	45.19	39	22.03	56.05	178	296	P	H
		11000	49.35	-24.65	74	50.66	40	14.79	56.1	163	230	P	V
		16500	50.79	-23.21	74	45.81	39	22.03	56.05	178	296	P	V
802.11a CH 116 5580MHz		11160	49.79	-24.21	74	50.75	40.03	14.86	55.85	170	200	P	H
		16740	49.96	-24.04	74	40.81	39.77	25.55	56.17	156	350	P	H
		11160	50.03	-23.97	74	50.99	40.03	14.86	55.85	170	200	P	V
		16740	49.92	-24.08	74	40.77	39.77	25.55	56.17	156	350	P	V
802.11a CH 140 5700MHz		11400	50	-24	74	50.54	40.08	14.87	55.49	157	285	P	H
		17100	49.52	-24.48	74	34.54	41.02	30.34	56.38	165	246	P	H
		11400	49.93	-24.07	74	50.47	40.08	14.87	55.49	157	285	P	V
		17100	49.99	-24.01	74	35.01	41.02	30.34	56.38	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)
		5392.72	48.04	-25.96	74	37.73	31.93	10	31.62	343	134	P	H
		5469.2	39.88	-14.12	54	29.43	31.98	10.08	31.61	343	134	A	H
802.11n	*	5500	101.6	-	-	91.09	32	10.11	31.6	343	134	P	H
HT20	*	5500	94.84	-	-	84.33	32	10.11	31.6	343	134	A	H
CH 100		5446.32	47.37	-26.63	74	36.97	31.97	10.04	31.61	342	99	P	V
5500MHz		5463.28	39.51	-14.49	54	29.08	31.98	10.06	31.61	342	99	A	V
	*	5500	99.82	-	-	89.31	32	10.11	31.6	342	99	P	V
	*	5500	92.21	-	-	81.7	32	10.11	31.6	342	99	A	V
		5413.84	47.41	-26.59	74	37.07	31.95	10.01	31.62	343	134	P	H
		5470	38.86	-15.14	54	28.41	31.98	10.08	31.61	343	134	A	H
	*	5580	101.49	-	-	90.74	32.12	10.23	31.6	343	134	P	H
	*	5580	93.99	-	-	83.24	32.12	10.23	31.6	343	134	A	H
802.11n		5727.83	47.85	-26.15	74	36.7	32.4	10.35	31.6	343	134	P	H
HT20		5761.22	40.2	-13.8	54	28.96	32.47	10.37	31.6	343	134	A	H
CH 116		5386.48	47.23	-26.77	74	36.92	31.93	10	31.62	350	90	P	V
5580MHz		5461.36	38.78	-15.22	54	28.36	31.97	10.06	31.61	350	90	A	V
	*	5580	99.55	-	-	88.8	32.12	10.23	31.6	350	90	P	V
	*	5580	91.78	-	-	81.03	32.12	10.23	31.6	350	90	A	V
		5726.885	47.45	-26.55	74	36.3	32.4	10.35	31.6	350	90	P	V
		5753.345	39.88	-14.12	54	28.65	32.47	10.36	31.6	350	90	A	V

	*	5700	101.15	-	-	90.07	32.34	10.34	31.6	326	133	P	H
	*	5700	93.72	-	-	82.64	32.34	10.34	31.6	326	133	A	H
802.11n		5744.2	49.94	-24.06	74	38.75	32.43	10.36	31.6	326	133	P	H
HT20		5739.64	41.07	-12.93	54	29.88	32.43	10.36	31.6	326	133	A	H
CH 140	*	5700	99.34	-	-	88.26	32.34	10.34	31.6	350	90	P	V
5700MHz	*	5700	92.74	-	-	81.66	32.34	10.34	31.6	350	90	A	V
		5756.84	48.97	-25.03	74	37.73	32.47	10.37	31.6	350	90	P	V
		5731.32	40.37	-13.63	54	29.22	32.4	10.35	31.6	350	90	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	50.63	-23.37	74	51.94	40	14.79	56.1	163	230	P	H
HT20		16500	50.75	-23.25	74	45.77	39	22.03	56.05	178	296	P	H
CH 100		11000	50.26	-23.74	74	51.57	40	14.79	56.1	163	230	P	V
5500MHz		16500	50.13	-23.87	74	45.15	39	22.03	56.05	178	296	P	V
802.11n		11160	50.26	-23.74	74	51.22	40.03	14.86	55.85	170	200	P	H
HT20		16740	50.77	-23.23	74	41.62	39.77	25.55	56.17	156	350	P	H
CH 116		11160	50.52	-23.48	74	51.48	40.03	14.86	55.85	170	200	P	V
5580MHz		16740	50.16	-23.84	74	41.01	39.77	25.55	56.17	156	350	P	V
802.11n		11400	49.99	-24.01	74	50.53	40.08	14.87	55.49	157	285	P	H
HT20		17100	50.06	-23.94	74	35.08	41.02	30.34	56.38	165	246	P	H
CH 140		11400	50.48	-23.52	74	51.02	40.08	14.87	55.49	157	285	P	V
5700MHz		17100	50.42	-23.58	74	35.44	41.02	30.34	56.38	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)
		5424.64	48.2	-25.8	74	37.86	31.95	10.01	31.62	224	134	P	H
		5469.76	40.4	-13.6	54	29.95	31.98	10.08	31.61	224	134	A	H
	*	5510	99.44	-	-	88.91	32	10.13	31.6	224	134	P	H
	*	5510	90.09	-	-	79.56	32	10.13	31.6	224	134	A	H
802.11n		5732.24	48.73	-25.27	74	37.58	32.4	10.35	31.6	224	134	P	H
HT40		5760.59	40.95	-13.05	54	29.71	32.47	10.37	31.6	224	134	A	H
CH 102		5454.64	48.28	-25.72	74	37.86	31.97	10.06	31.61	397	45	P	V
5510MHz		5462.32	39.97	-14.03	54	29.55	31.97	10.06	31.61	397	45	A	V
	*	5510	95.11	-	-	84.58	32	10.13	31.6	397	45	P	V
	*	5510	86.99	-	-	76.46	32	10.13	31.6	397	45	A	V
		5737.28	48.9	-25.1	74	37.71	32.43	10.36	31.6	397	45	P	V
		5737.91	40.95	-13.05	54	29.76	32.43	10.36	31.6	397	45	A	V
		5454.64	47.84	-26.16	74	37.42	31.97	10.06	31.61	235	152	P	H
		5468.08	40.25	-13.75	54	29.8	31.98	10.08	31.61	235	152	A	H
	*	5550	99.63	-	-	88.97	32.09	10.17	31.6	235	152	P	H
	*	5550	90.91	-	-	80.25	32.09	10.17	31.6	235	152	A	H
802.11n		5728.78	48.64	-25.36	74	37.49	32.4	10.35	31.6	235	152	P	H
HT40		5737.91	40.96	-13.04	54	29.77	32.43	10.36	31.6	235	152	A	H
CH 110		5434.24	46.66	-27.34	74	36.27	31.96	10.04	31.61	220	196	P	V
5550MHz		5467.12	39.49	-14.51	54	29.04	31.98	10.08	31.61	220	196	A	V
	*	5550	94.18	-	-	83.52	32.09	10.17	31.6	220	196	P	V
	*	5550	85.77	-	-	75.11	32.09	10.17	31.6	220	196	A	V
		5750.20	47.91	-26.09	74	36.72	32.43	10.36	31.6	220	196	P	V
		5727.83	40.46	-13.54	54	29.31	32.4	10.35	31.6	220	196	A	V

		5360.85	48.5	-25.5	74	38.19	31.92	10.02	31.63	223	149	P	H
		5468.3	39.78	-14.22	54	29.33	31.98	10.08	31.61	223	149	A	H
	*	5670	100.37	-	-	89.35	32.31	10.31	31.6	223	149	P	H
	*	5670	91.76	-	-	80.74	32.31	10.31	31.6	223	149	A	H
802.11n		5728.08	50.09	-23.91	74	38.94	32.4	10.35	31.6	223	149	P	H
HT40		5738.05	42.22	-11.78	54	31.03	32.43	10.36	31.6	223	149	A	H
CH 134		5434	48.27	-25.73	74	37.88	31.96	10.04	31.61	219	198	P	V
5670MHz		5460.6	39.47	-14.53	54	29.05	31.97	10.06	31.61	219	198	A	V
	*	5670	95	-	-	83.98	32.31	10.31	31.6	219	198	P	V
	*	5670	85.89	-	-	74.87	32.31	10.31	31.6	219	198	A	V
		5760.28	48.79	-25.21	74	37.55	32.47	10.37	31.6	219	198	P	V
		5744.53	40.88	-13.12	54	29.69	32.43	10.36	31.6	219	198	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	50.33	-23.67	74	51.58	40	14.82	56.07	170	230	P	H
HT40		16530	50.01	-23.99	74	44.7	39.11	22.27	56.07	160	300	P	H
CH 102		11020	49.98	-24.02	74	51.23	40	14.82	56.07	170	230	P	V
5510MHz		16530	50.89	-23.11	74	45.58	39.11	22.27	56.07	160	300	P	V
802.11n		11100	50.36	-23.64	74	51.4	40.02	14.89	55.95	150	200	P	H
HT40		16650	50.14	-23.86	74	42.51	39.5	24.26	56.13	180	350	P	H
CH 110		11100	50.22	-23.78	74	51.26	40.02	14.89	55.95	150	200	P	V
5550MHz		16650	50.87	-23.13	74	43.24	39.5	24.26	56.13	180	350	P	V
802.11n		11340	50.07	-23.93	74	50.61	40.07	14.98	55.59	200	360	P	H
HT40		17010	50.22	-23.78	74	35.02	40.67	30.84	56.31	200	360	P	H
CH 134		11340	50.09	-23.91	74	50.63	40.07	14.98	55.59	200	360	P	V
5670MHz		17010	50.34	-23.66	74	35.14	40.67	30.84	56.31	200	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 5470~5725MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5469.04	52.74	-21.26	74	42.29	31.98	10.08	31.61	224	136	P	H
		5464.72	41.9	-12.1	54	31.47	31.98	10.06	31.61	224	136	A	H
	*	5530	97.29	-	-	86.71	32.03	10.15	31.6	224	136	P	H
	*	5530	88.94	-	-	78.36	32.03	10.15	31.6	224	136	A	H
802.11ac		5756.50	48.12	-25.88	74	36.88	32.47	10.37	31.6	224	136	P	H
VHT80		5759.96	41.27	-12.73	54	30.03	32.47	10.37	31.6	224	136	A	H
CH 106		5443.84	47.23	-26.77	74	36.84	31.96	10.04	31.61	249	194	P	V
5530MHz		5470	40.12	-13.88	54	29.67	31.98	10.08	31.61	249	194	A	V
	*	5530	92.39	-	-	81.81	32.03	10.15	31.6	249	194	P	V
	*	5530	83.94	-	-	73.36	32.03	10.15	31.6	249	194	A	V
		5762.17	48.33	-25.67	74	37.09	32.47	10.37	31.6	249	194	P	V
		5730.98	40.52	-13.48	54	29.37	32.4	10.35	31.6	249	194	A	V
		5422.96	47.37	-26.63	74	37.03	31.95	10.01	31.62	220	134	P	H
		5455.6	39.59	-14.41	54	29.17	31.97	10.06	31.61	220	134	A	H
	*	5610	97.66	-	-	86.8	32.19	10.27	31.6	220	134	P	H
	*	5610	88.53	-	-	77.67	32.19	10.27	31.6	220	134	A	H
802.11ac		5737.60	50.14	-23.86	74	38.95	32.43	10.36	31.6	220	134	P	H
VHT80		5759.96	41.4	-12.6	54	30.16	32.47	10.37	31.6	220	134	A	H
CH 122		5379.04	47.71	-26.29	74	37.4	31.93	10	31.62	241	193	P	V
5610MHz		5436.88	39.32	-14.68	54	28.93	31.96	10.04	31.61	241	193	A	V
	*	5610	92.76	-	-	81.9	32.19	10.27	31.6	241	193	P	V
	*	5610	84.41	-	-	73.55	32.19	10.27	31.6	241	193	A	V
		5753.03	48.36	-25.64	74	37.13	32.47	10.36	31.6	241	193	P	V
		5741.38	40.87	-13.13	54	29.68	32.43	10.36	31.6	241	193	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 5470~5725MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac		11060	50.75	-23.25	74	51.88	40.01	14.86	56	150	245	P	H
VHT80		16590	50.84	-23.16	74	44.2	39.28	23.46	56.1	180	225	P	H
CH 106		11060	50.35	-23.65	74	51.48	40.01	14.86	56	165	235	P	V
5530MHz		16590	50.48	-23.52	74	43.84	39.28	23.46	56.1	159	210	P	V
802.11ac		11220	50.85	-23.15	74	51.72	40.04	14.86	55.77	155	210	P	H
VHT80		16830	50.65	-23.35	74	39.7	40.05	27.12	56.22	160	180	P	H
CH 122		11220	50.01	-23.99	74	50.88	40.04	14.86	55.77	175	230	P	V
5610MHz		16830	50.8	-23.2	74	39.85	40.05	27.12	56.22	180	250	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - Straddle Channel

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 144 5720MHz		11440	50.43	-23.57	74	50.9	40.09	14.88	55.44	150	360	P	H
		17160	49.84	-24.16	74	35.08	41.3	29.9	56.44	150	0	P	H
		11440	50.65	-23.35	74	51.12	40.09	14.88	55.44	150	360	P	V
		17160	50.6	-23.4	74	35.84	41.3	29.9	56.44	150	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - Straddle Channel

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		11440	49.93	-24.07	74	50.4	40.09	14.88	55.44	150	360	P	H
HT20		17160	49.48	-24.52	74	34.72	41.3	29.9	56.44	150	0	P	H
CH 144		11440	49.97	-24.03	74	50.44	40.09	14.88	55.44	150	360	P	V
5720MHz		17160	49.92	-24.08	74	35.16	41.3	29.9	56.44	150	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - Straddle Channel

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n		11420	50.13	-23.87	74	50.63	40.08	14.88	55.46	157	285	P	H
HT40		17130	50.36	-23.64	74	35.56	41.16	30.05	56.41	165	246	P	H
CH 142		11420	49.82	-24.18	74	50.32	40.08	14.88	55.46	157	285	P	V
5710MHz		17130	50.48	-23.52	74	35.68	41.16	30.05	56.41	165	246	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - Straddle Channel

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac		11380	50.64	-23.36	74	51.18	40.08	14.9	55.52	150	360	P	H
VHT80		17070	50.32	-23.68	74	35.25	40.88	30.54	56.35	150	0	P	H
CH 138		11380	49.91	-24.09	74	50.45	40.08	14.9	55.52	150	360	P	V
5690MHz		17070	50.76	-23.24	74	35.69	40.88	30.54	56.35	150	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

WIFI 802.11ac VHT80 (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)
802.11ac VHT80 LF		31.94	26.37	-13.63	40	31.32	26.38	0.27	31.6	110	122	P	H
		89.17	24.82	-18.68	43.5	38.08	17.48	0.76	31.5	-	-	P	H
		159.98	29.84	-13.66	43.5	41.52	18.29	1.38	31.35	-	-	P	H
		262.8	27.92	-18.08	46	39.02	18.01	1.91	31.02	-	-	P	H
		462.62	28.14	-17.86	46	31.73	24.9	2.61	31.1	-	-	P	H
		766.23	32.23	-13.77	46	31.46	28.56	3.51	31.3	-	-	P	H
		40.67	31.51	-8.49	40	40.64	22.18	0.39	31.7	100	144	P	V
		88.2	28.54	-14.96	43.5	42.03	17.26	0.75	31.5	-	-	P	V
		159.98	27.31	-16.19	43.5	38.99	18.29	1.38	31.35	-	-	P	V
		270.56	27.54	-18.46	46	38.39	18.26	1.93	31.04	-	-	P	V
		402.48	27.55	-18.45	46	31.99	24.26	2.4	31.1	-	-	P	V
		799.21	32.34	-13.66	46	30.95	29.08	3.61	31.3	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Note symbol

*	**Fundamental Frequency** which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is **over limit** line.
P/A	**P**eak or **A**verage
H/V	**H**orizontal or **V**ertical

A calculation example for radiated spurious emission is shown as below:

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Level(dBμV/m) =

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

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

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

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

= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

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

= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

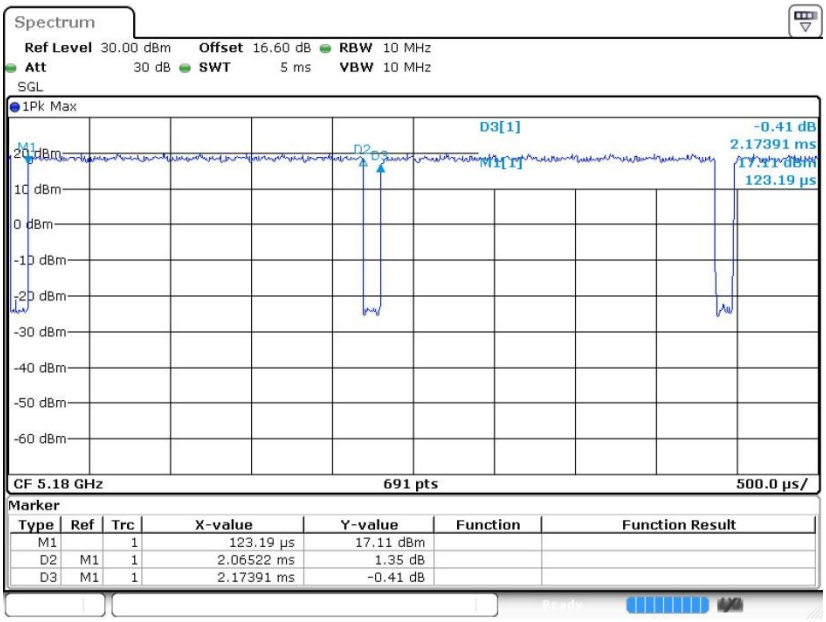
= -10.46(dB)

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

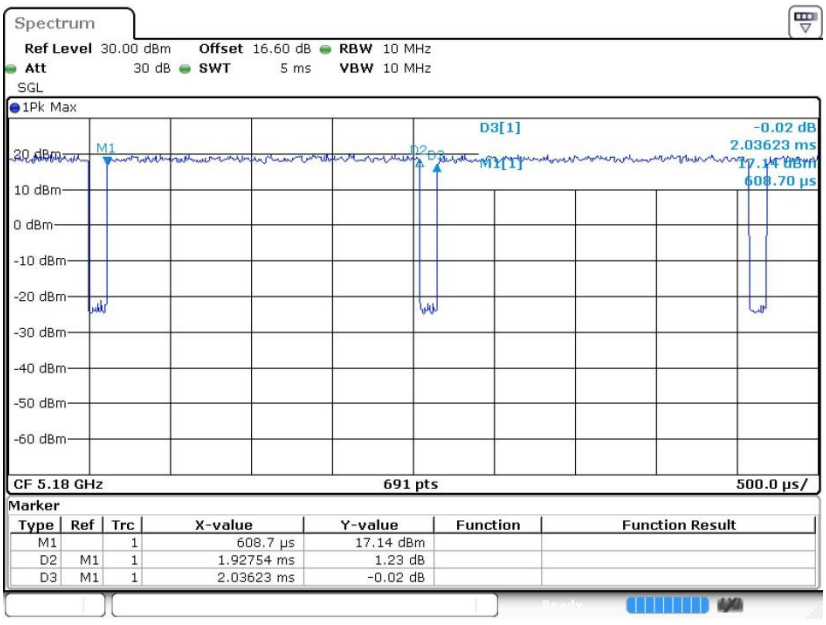
Appendix D. Duty Cycle Plots

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	95.00	2.065	0.484	1KHz
802.11n HT20	94.66	1.928	0.519	1KHz
802.11n HT40	90.37	0.952	1.050	3KHz
802.11ac VHT80	82.64	0.462	2.165	3KHz

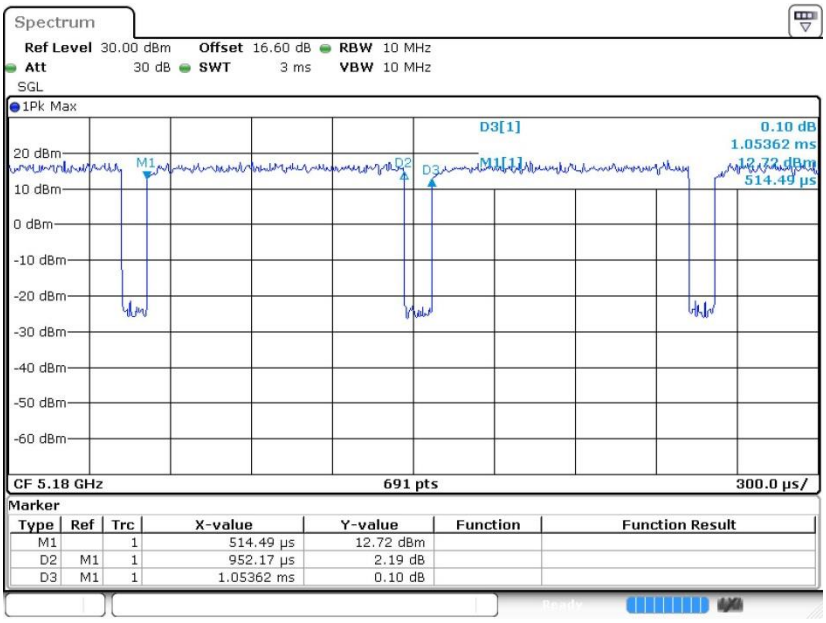
802.11a



802.11n HT20



802.11n HT40



802.11ac VHT80