FCC RF Test Report

APPLICANT	:	Lenovo(Shanghai) Electronics Technology Co., Ltd.
EQUIPMENT	:	Portable Tablet Computer
BRAND NAME	:	Lenovo
MODEL NAME	:	701LV, 702LV
FCC ID	:	O57TAB4LV
STANDARD	:	FCC Part 15 Subpart E §15.407
CLASSIFICATION	:	(NII) Unlicensed National Information Infrastructure

The product was received on Aug. 22, 2017 and testing was completed on Nov. 01, 2017. We, Sporton International (Kunshan) Inc., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

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

James Huang

Approved by: James Huang / Manager

TESTING
NVLAP LAB CODE 600155-0

Sporton International (Kunshan) Inc.
No.3-2 Ping-Xiang Rd, Kunshan Development Zone Kunshan City Jiangsu Province 215335 China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR782206D	Rev. 01	Initial issue of report	Nov. 07, 2017

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	FCC ≤ 24 dBm (depend on band)	Pass	-
3.3	15.407(a)	Power Spectral Density	FCC ≤ 11 dBm (depend on band)	Pass	-
3.4	15.407(b)	Unwanted Emissions	15.407(b) 15.209(a)	Pass	Under limit 2.70 dB at 11400.000 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 8.82 dB at 0.167 MHz
3.6	15.407(g)	Frequency Stability	Within Operation Band	Pass	-
3.7	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.8	15.203 & 15.407(a)	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

Lenovo(Shanghai) Electronics Technology Co., Ltd.
NO.68 BUILDING, 199 FENJU RD., China (Shanghai) Pilot Free Trade Zone, 200131, CHINA

1.2 Manufacturer

Lenovo PC HK Limited
23/F, Lincoln House, Taikoo Place 979 King's Road, Quarry Bay, Hong Kong

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	Portable Tablet Computer
Brand Name	Lenovo
Model Name	701LV, 702LV
FCC ID	O57TAB4LV
EUT supports Radios application	LTE WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80/ Bluetooth v3.0 + EDR/ Bluetooth v 4.0 LE/ Bluetooth v4.1 LE/ Bluetooth v4.2 LE
IMEI Code	Conducted: 866423030007253 Conduction: 866423030007907 Radiation: 866423030007717
HW Version	LenovoPad 701LV
SW Version	TB-701LV_RF02_20170831
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.

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency Range	5180 MHz ~ 5240 MHz 5260 MHz ~ 5320 MHz 5500 MHz ~ 5700 MHz
Maximum Output Power to Antenna	**<5180 MHz ~ 5240 MHz>** 802.11a : 13.26 dBm / 0.0212 W 802.11n HT20 : 13.22 dBm / 0.0210 W 802.11n HT40 : 13.19 dBm / 0.0208 W 802.11ac VHT20: 12.96 dBm / 0.0198 W 802.11ac VHT40: 13.15 dBm / 0.0207 W 802.11ac VHT80: 12.92 dBm / 0.0196 W **<5260 MHz ~ 5320 MHz>** 802.11a : 13.21 dBm / 0.0209 W 802.11n HT20 : 13.14 dBm / 0.0206 W 802.11n HT40 : 13.17 dBm / 0.0207 W 802.11ac VHT20: 12.83 dBm / 0.0192 W 802.11ac VHT40: 13.11 dBm / 0.0205 W 802.11ac VHT80: 12.90 dBm / 0.0195 W **<5500 MHz ~ 5700 MHz >** 802.11a : 13.11 dBm / 0.0205 W 802.11n HT20 : 13.12 dBm / 0.0205 W 802.11n HT40 : 13.16 dBm / 0.0207 W 802.11ac VHT20: 12.57 dBm / 0.0181 W 802.11ac VHT40: 13.07 dBm / 0.0203 W 802.11ac VHT80: 12.93 dBm / 0.0196 W
99% Occupied Bandwidth	**<5180 MHz ~ 5240 MHz>** 802.11a : 18.83 MHz 802.11n HT20 : 19.38 MHz 802.11n HT40 : 36.86 MHz 802.11ac VHT80 : 74.93 MHz **<5260 MHz ~ 5320 MHz>** 802.11a : 18.53 MHz 802.11n HT20 : 19.23 MHz 802.11n HT40 : 36.86 MHz 802.11ac VHT80 : 74.81 MHz **<5500 MHz ~ 5700 MHz >** 802.11a : 18.73 MHz 802.11n HT20 : 19.43 MHz 802.11n HT40 : 36.86 MHz 802.11ac VHT80 : 74.81 MHz
Antenna Type	IFA Antenna
Antenna Gain	**<5180 MHz ~ 5240 MHz>:** 1.80 dBi **<5260 MHz ~ 5320 MHz>:** 1.30 dBi **<5500 MHz ~ 5700 MHz >:** 0.90 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 is assessed only 802.11n HT20/ HT40 by referring to their maximum conducted power.

1.5 Modification of EUT

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

1.6 Specification of Accessory

Specification of Accessory				
Battery 1	**Brand Name**	Lenovo(SCUD)	**Model Name**	L16D2P31
	Power Rating	3.85 Vdc, 7000 mAh	**Type**	Li-ion
Battery 2	**Brand Name**	Lenovo (Celxpert)	**Model Name**	L16D2P31
	Power Rating	3.85 Vdc, 7000 mAh	**Type**	Li-ion

1.7 Testing Location

Sporton Lab is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600155-0) and the FCC designation No. is CN5013.

Test Site	Sporton International (Kunshan) Inc.			
Test Site Location	No.3-2 Ping-Xiang Rd, Kunshan Development Zone Kunshan City Jiangsu Province 215335 China TEL: +86-512-57900158 FAX: +86-512-57900958			
Test Site No.	**Sporton Site No.**			**FCC Test Firm Registration No.**
	TH01-KS	03CH03-KS	CO01-KS	630927

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

1.8 Component List

Note: There are two types of EUT, the details refer the following table. According to the difference, we choose the sample 1 to full test.

Component	Sample 1		Sample 2	
CPU	MSM-8953-2-857NSP-TR-01-1-AB	Qualcomm	MSM-8953-2-857NSP-TR-01-1-AB	Qualcomm
Flash	KMQE10013M-B318013	Samsung	H9TQ17ABJTBCUR-KUM(A05)	Hynix
LCD	P101KDA-AF0	INX	TV101WUM-NL1	BOE
TP	MTF-101-2856IKA	O-flim	TC101GFL16V.A	GIS
Front Camera	V10835V0	C&T	B02SF0105	Broad
Rear Camera	FX219BH	QTECH	L8856A10	O-film
Battery	L16D2P31	SCUD	L16D2P31	celxpert
motor	HZF-Z04BE-RL67B25-90	HONGZHIFA	CY0408L-021HB-064	Kunwang
Speaker 1	XHB171220B08-01-B1F-RH	HAOSHENG	XHB171220B08-01-B1F-RH	HAOSHENG
Speaker 2	XHB171220B08-02-B1F-RH	HAOSHENG	XHB171220B08-02-B1F-RH	HAOSHENG

1.9 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 v01r04
- 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

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: conducted emission (150 kHz to 30 MHz) and radiated 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 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)
5500-5700 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

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 mode of conducted test items and radiated spurious emissions 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 VHT20	MCS0
802.11ac VHT40	MCS0
802.11ac VHT80	MCS0

Test Cases	
AC Conducted Emission	Mode 1 : LTE Band 41 Idle + Bluetooth Link + WLAN Link (5G) + USB Cable (Charging from Adapter) + Earphone

Ch. #		Band I：5180-5240 MHz	Band II：5260-5320 MHz	Band III：5500-5700MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

Ch. #		Band I：5180-5240 MHz	Band II：5260-5320 MHz	Band III：5500-5700MHz
		802.11n HT20	802.11n HT20	802.11n HT20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

Ch. #		Band I：5180-5240 MHz	Band II：5260-5320 MHz	Band III：5500-5700MHz
		802.11n HT40	802.11n HT40	802.11n HT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134

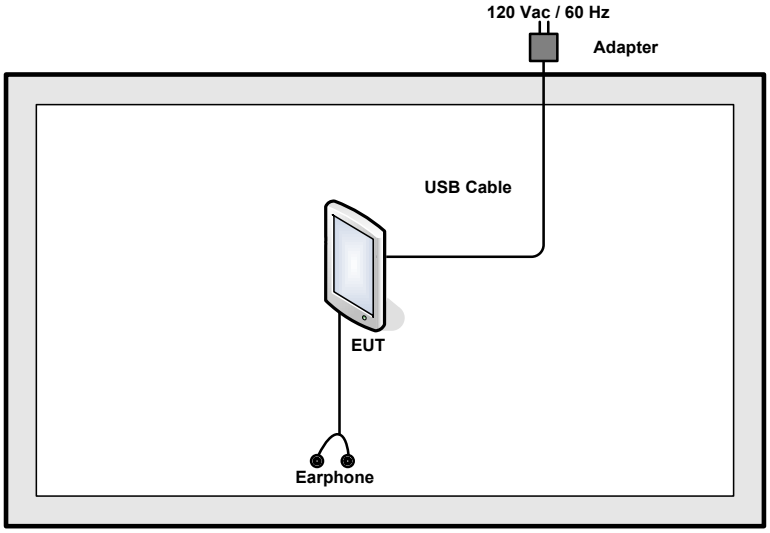
Ch. #		Band I：5180-5240 MHz	Band II：5260-5320 MHz	Band III：5500-5700MHz
		802.11ac VHT20	802.11ac VHT20	802.11ac VHT20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

Ch. #		Band I：5180-5240 MHz	Band II：5260-5320 MHz	Band III：5500-5700MHz
		802.11ac VHT40	802.11ac VHT40	802.11ac VHT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134

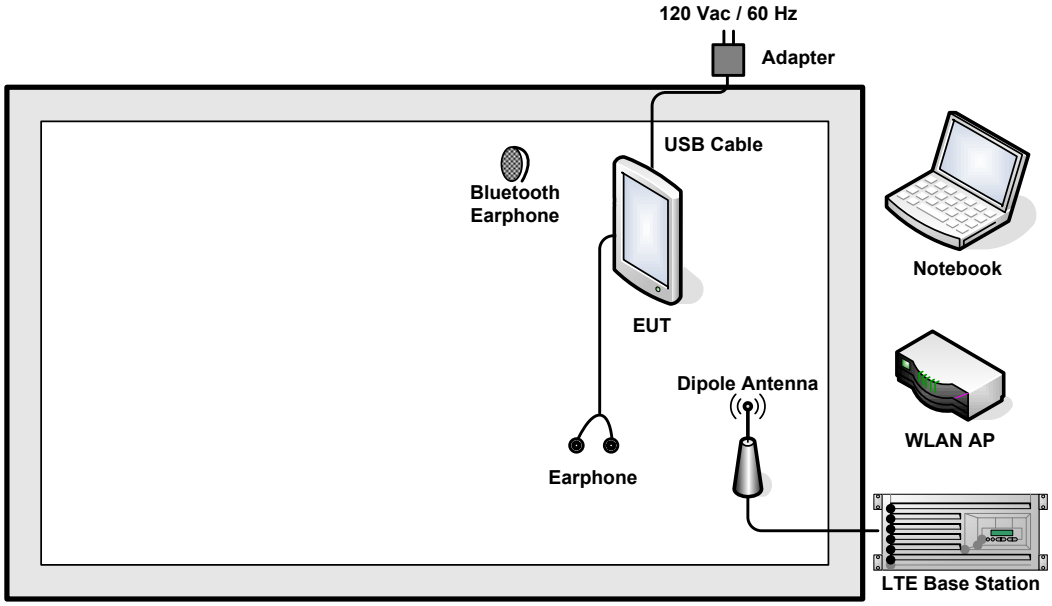
Ch. #		Band I：5180-5240 MHz	Band II：5260-5320 MHz	Band III：5500-5700MHz
		802.11ac VHT80	802.11ac VHT80	802.11ac VHT80
L	Low	-	-	106
M	Middle	42	58	-
H	High	-	-	122

2.3 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



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-855	KA2DIR855A2	N/A	Unshielded,1.8m
3.	Notebook	Lenovo	G480	N/A	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m
4.	Bluetooth Earphone	Lenovo	LBH308	NA	NA	N/A
5.	Earphone	Lenovo	SH100	N/A	Unshielded,1.2m	N/A
6.	Adapter	Lenovo	C-P35	N/A	N/A	N/A
7.	USB cable	LI QI	N/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.

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 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.

Offset = RF cable loss.

Following shows an offset computation example with cable loss 6.8 dB.

Offset(dB) = RF cable loss(dB).

= 6.8 (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.

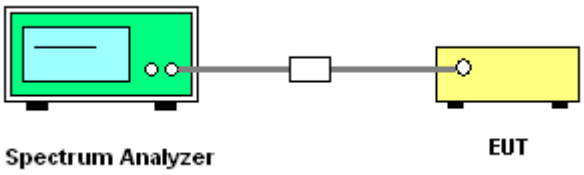
3.1.2 Measuring Instruments

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 v01r04. 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.

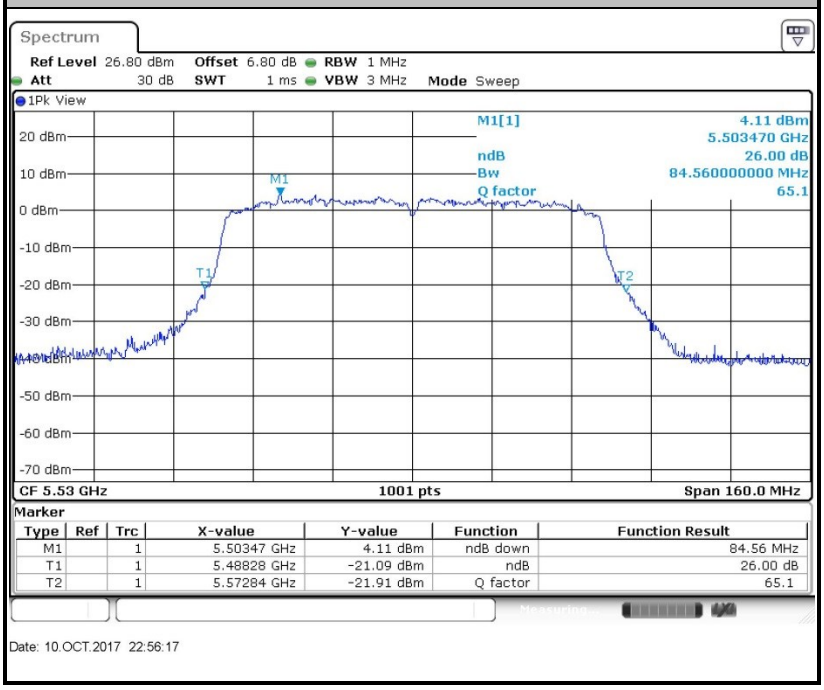
3.1.4 Test Setup



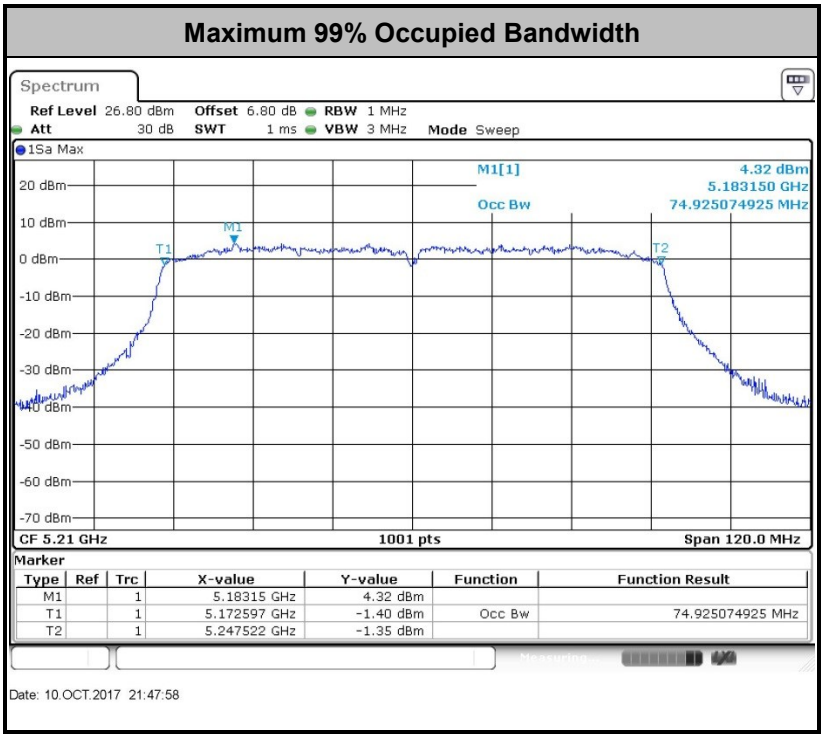
3.1.5 Test Result of 26dB & 99% Occupied Bandwidth

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.

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.

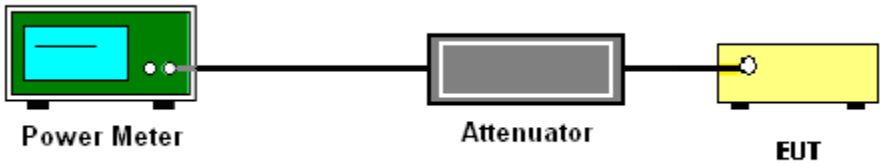
3.2.3 Test Procedures

The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04 for CDD modes.

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

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

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

<FCC 14-30 CFR 15.407>

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

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

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

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

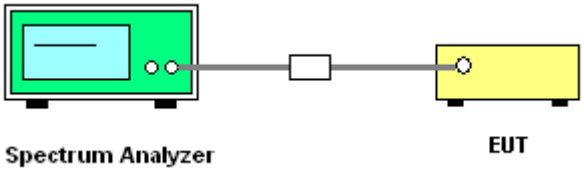
The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04. Section F) Maximum power spectral density.

 # Method SA-2 #

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

1. The testing follows Method SA-2 of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04.
   - 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.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.

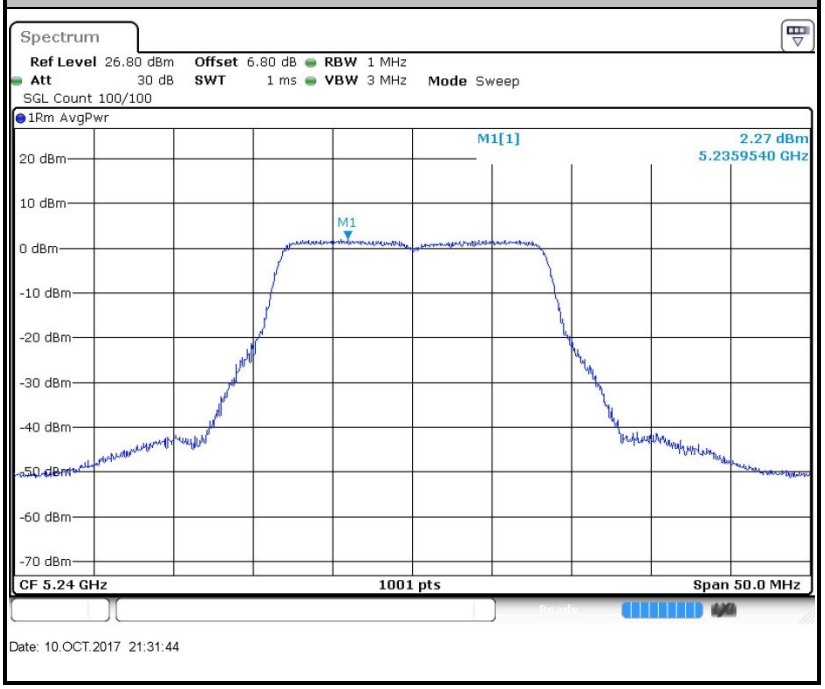
3.3.4 Test Setup



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 5470-5725MHz band: all emissions outside of the 5470-5725MHz 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

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

$$E=\frac{1000000\sqrt{30P}}{3}$$ μV/m, where P is the eirp (Watts)

EIRP (dBm)	Field Strength at 3m (dBµV/m)
- 27	68.3

(3) KDB789033 D01 v01r04 G)2)c)

(i) Section 15.407(b)(1) to (b)(3) specify the unwanted emission limits for the U-NII-1 and U-NII-2 bands. As specified, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz.[3]

(ii) Section 15.407(b)(4) specifies the unwanted emission limit for the U-NII-3 band. A band emissions mask is specified in Section 15.407(b)(4)(i). The emission limits are in terms of a Peak detector. An alternative to the band emissions mask is specified in Section 15.407(b)(4)(ii). The alternative limits are based on the highest antenna gain specified in the filing. There are also marketing and importation restrictions for the devices using the alternative limit.[4]

Note 3: An out-of-band emission that complies with both the average and peak limits of Section 15.209 is not required to satisfy the -27 dBm/MHz peak emission limit.

Note 4: Only devices with antenna gains of 10 dBi or less may be approved using the emission limits specified in Section 15.247(d) till March 2, 2018; all other devices operating in this band must use the mask specified in Section 15.407(b)(4)(i).

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 v01r04. 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.

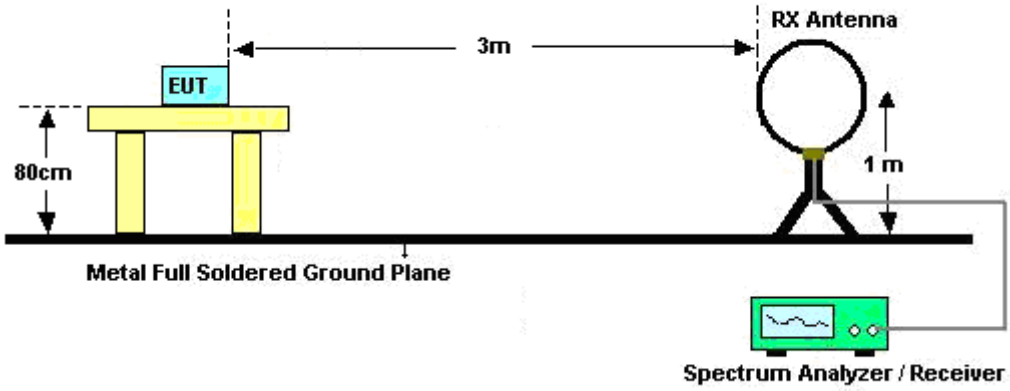
(4) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

- RBW = 1 MHz
- VBW = 3 MHz
- Detector = power averaging (rms), set sweep point ≥ 2 span / RBW.
- Averaging type = power averaging(RMS)
- The correction factor shall be offset is 10 log (1/x), where x is the duty cycle.

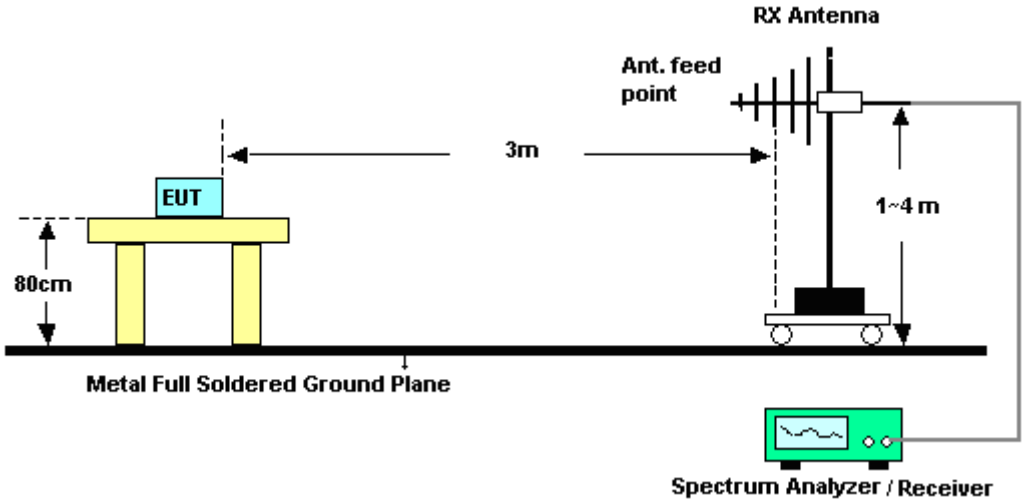
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband 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

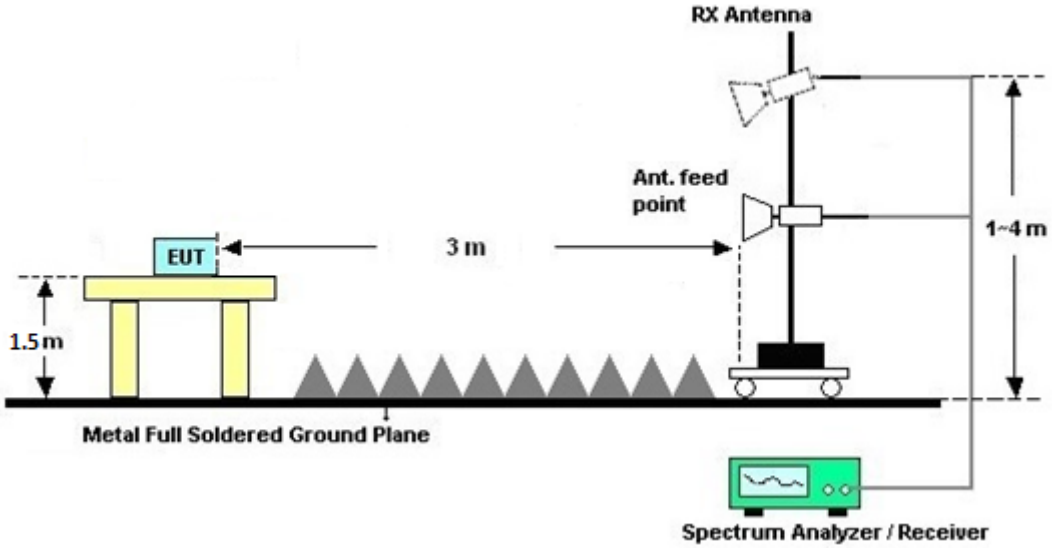
For radiated emissions below 30MHz



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.

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.

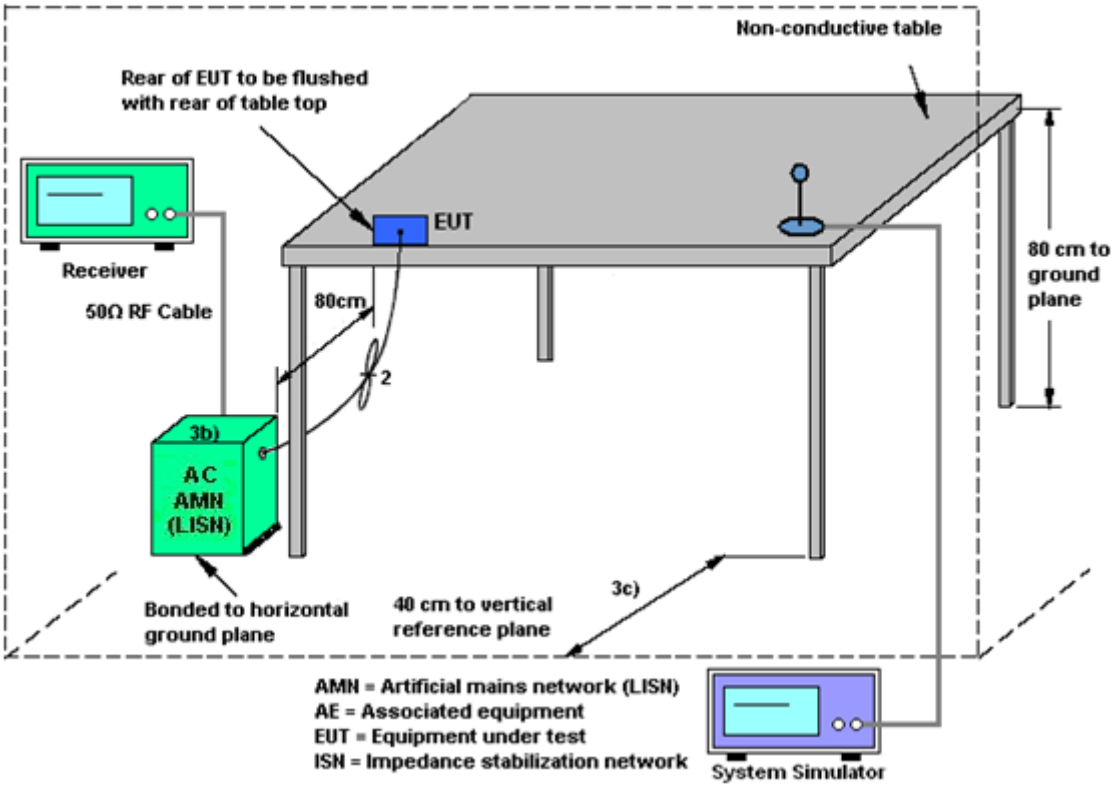
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

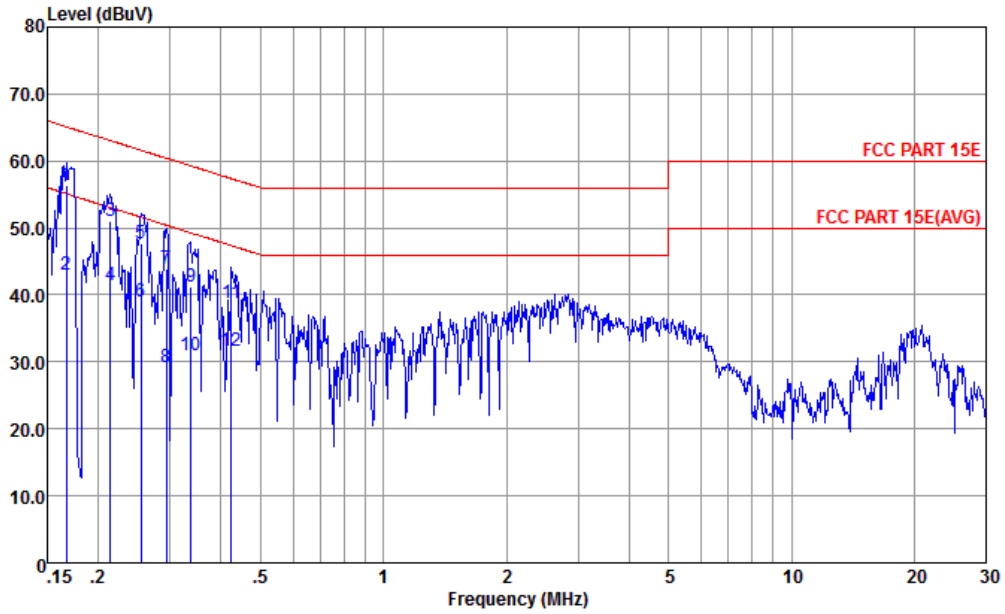
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
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

Test Mode :	Mode 1	**Temperature :**	22~24℃
Test Engineer :	Amos Zhang	**Relative Humidity :**	42~46%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	LTE Band 41 Idle + Bluetooth Link + WLAN Link (5G) + USB Cable (Charging from Adapter) + Earphone		

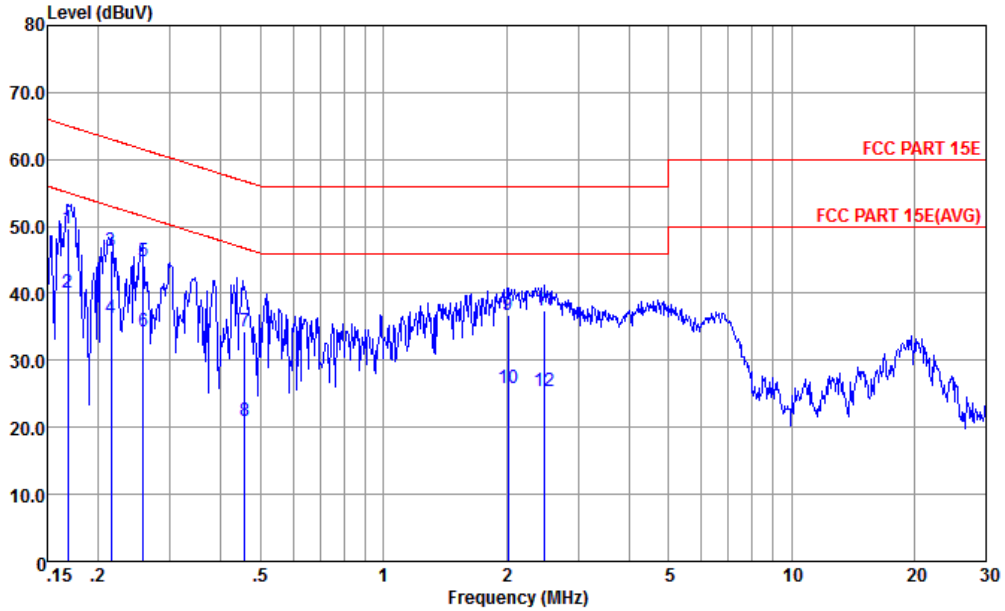


Site : CO01-KS
Condition : FCC PART 15E LISN-L-161017-060103 LINE

mode : Mode 1

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1 *	0.167	56.30	-8.82	65.12	45.29	0.45	10.56	QP
2	0.167	42.90	-12.22	55.12	31.89	0.45	10.56	Average
3	0.214	50.92	-12.13	63.05	40.20	0.27	10.45	QP
4	0.214	41.52	-11.53	53.05	30.80	0.27	10.45	Average
5	0.255	47.61	-13.99	61.60	36.90	0.27	10.44	QP
6	0.255	38.91	-12.69	51.60	28.20	0.27	10.44	Average
7	0.294	43.90	-16.51	60.41	33.20	0.27	10.43	QP
8	0.294	29.30	-21.11	50.41	18.60	0.27	10.43	Average
9	0.337	41.29	-17.98	59.27	30.60	0.27	10.42	QP
10	0.337	30.99	-18.28	49.27	20.30	0.27	10.42	Average
11	0.424	38.85	-18.52	57.37	28.20	0.27	10.38	QP
12	0.424	31.55	-15.82	47.37	20.90	0.27	10.38	Average

Test Mode :	Mode 1	Temperature :	22~24℃
Test Engineer :	Amos Zhang	Relative Humidity :	42~46%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	LTE Band 41 Idle + Bluetooth Link + WLAN Link (5G) + USB Cable (Charging from Adapter) + Earphone		



Site : CO01-KS
Condition : FCC PART 15E LISN-N-161017-060103 NEUTRAL

mode : Mode 1

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.169	49.79	-15.24	65.03	38.90	0.34	10.55	QP
2	*	0.169	40.19	-14.84	55.03	29.30	0.34	10.55	Average
3		0.215	46.28	-16.73	63.01	35.50	0.33	10.45	QP
4		0.215	36.38	-16.63	53.01	25.60	0.33	10.45	Average
5		0.258	44.68	-16.83	61.51	33.90	0.34	10.44	QP
6		0.258	34.38	-17.13	51.51	23.60	0.34	10.44	Average
7		0.456	34.22	-22.54	56.76	23.49	0.38	10.35	QP
8		0.456	21.02	-25.74	46.76	10.29	0.38	10.35	Average
9		2.023	36.82	-19.18	56.00	26.20	0.41	10.21	QP
10		2.023	25.92	-20.08	46.00	15.30	0.41	10.21	Average
11		2.487	37.40	-18.60	56.00	26.80	0.40	10.20	QP
12		2.487	25.40	-20.60	46.00	14.80	0.40	10.20	Average

3.6 Frequency Stability Measurement

3.6.1 Limit of Frequency Stability

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

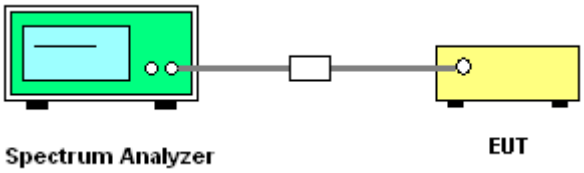
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

1. To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
2. The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10dB lower than the measured peak value.
3. The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

3.6.4 Test Setup



3.6.5 Test Result of Frequency Stability

Please refer to Appendix A.

3.7 Automatically Discontinue Transmission

3.7.1 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.

3.7.2 Measuring Instruments

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

3.7.3 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.

3.8 Antenna Requirements

3.8.1 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.

3.8.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.8.3 Antenna Gain

The antenna gain 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	101040	10Hz~40GHz	Aug. 08, 2017	Oct. 01, 2017~ Oct. 10, 2017	Aug. 07, 2018	Conducted (TH01-KS)
Pulse Power Senor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 19, 2017	Oct. 01, 2017~ Oct. 10, 2017	Jan. 18, 2018	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 19, 2017	Oct. 01, 2017~ Oct. 10, 2017	Jan. 18, 2018	Conducted (TH01-KS)
Thermal Chamber	Hongzhan	LP-150U	HZ014011440	-40~+150°C 20%~95%RH	Apr. 18, 2017	Oct. 01, 2017~ Oct. 10, 2017	Apr. 17, 2018	Conducted (TH01-KS)
EMI Test Receiver	Keysight	N9038A	MY56400004	3Hz~8.5GHz; Max 30dBm	Oct. 19, 2017	Nov. 01, 2017	Oct. 18, 2018	Radiation (03CH03-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz~44GHz	Apr. 18, 2017	Nov. 01, 2017	Apr. 17, 2018	Radiation (03CH03-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Nov. 23, 2016	Nov. 01, 2017	Nov. 22, 2017	Radiation (03CH03-KS)
Bilog Antenna	TeseQ	CBL6112D	35406	25MHz~2GHz	Apr. 22, 2017	Nov. 01, 2017	Apr. 21, 2018	Radiation (03CH03-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1356	1GHz~18GHz	Apr. 22, 2017	Nov. 01, 2017	Apr. 21, 2018	Radiation (03CH03-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	BBHA170249	15GHz~40GHz	Feb. 15, 2017	Nov. 01, 2017	Feb. 14, 2018	Radiation (03CH03-KS)
Amplifier	com-power	PA-103A	161069	1MHz~1000MHz / 32 dB	Apr. 18, 2017	Nov. 01, 2017	Apr. 17, 2018	Radiation (03CH03-KS)
Amplifier	MITEQ	TTA1840-35-HG	1887435	18GHz~40GHz	Oct. 12, 2017	Nov. 01, 2017	Oct. 11, 2018	Radiation (03CH03-KS)
high gain Amplifier	MITEQ	AMF-7D-00101800-30-10P	2025788	1GHz~18GHz	Apr. 18. 2017	Nov. 01, 2017	Apr. 17, 2018	Radiation (03CH03-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Oct. 12, 2017	Nov. 01, 2017	Oct. 11, 2018	Radiation (03CH03-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Nov. 01, 2017	NCR	Radiation (03CH03-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Nov. 01, 2017	NCR	Radiation (03CH03-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Nov. 01, 2017	NCR	Radiation (03CH03-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	Apr. 20, 2017	Oct. 13, 2017	Apr. 19, 2018	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060103	9kHz~30MHz	Oct. 13, 2017	Oct. 13, 2017	Oct. 12, 2018	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060105	9kHz~30MHz	Oct. 13, 2017	Oct. 13, 2017	Oct. 12, 2018	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	AC 0V~300V, 45Hz~1000Hz	Oct. 12, 2017	Oct. 13, 2017	Oct. 11, 2018	Conduction (CO01-KS)

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))	2.3dB

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

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

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.5dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.7dB

Appendix A. Conducted Test Results

Report Number : FR782206D

Test Engineer:	Silent Hai	Temperature:	21~25	°C
Test Date:	2017/10/01~2017/10/10	Relative Humidity:	51~55	%

Report Number : FR782206D

TEST RESULTS DATA
26dB and 99% OBW

Band I								
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)		
11a	6Mbps	1	36	5180	18.28	23.28		
11a	6Mbps	1	44	5220	18.33	23.78		
11a	6Mbps	1	48	5240	18.83	23.58		
HT20	MCS0	1	36	5180	19.18	23.83		
HT20	MCS0	1	44	5220	19.38	23.93		
HT20	MCS0	1	48	5240	19.33	23.88		
HT40	MCS0	1	38	5190	36.86	45.05		
HT40	MCS0	1	46	5230	36.76	45.23		
VHT80	MCS0	1	42	5210	74.93	84.08		

Report Number : FR782206D

TEST RESULTS DATA
Average Power Table

FCC Band I										
Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)		Pass/Fail
11a	6Mbps	1	36	5180	0.60	13.16	24.00	1.80		Pass
11a	6Mbps	1	44	5220	0.60	12.96	24.00	1.80		Pass
11a	6Mbps	1	48	5240	0.60	13.26	24.00	1.80		Pass
HT20	MCS0	1	36	5180	0.64	13.19	24.00	1.80		Pass
HT20	MCS0	1	44	5220	0.64	13.04	24.00	1.80		Pass
HT20	MCS0	1	48	5240	0.64	13.22	24.00	1.80		Pass
HT40	MCS0	1	38	5190	0.64	13.15	24.00	1.80		Pass
HT40	MCS0	1	46	5230	0.64	13.19	24.00	1.80		Pass
VHT80	MCS0	1	42	5210	2.58	12.92	24.00	1.80		Pass

Report Number : FR782206D

TEST RESULTS DATA
Power Spectral Density

FCC Band I										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)	-	Pass/Fail
11a	6Mbps	1	36	5180	0.60	2.31	11.00	1.80		Pass
11a	6Mbps	1	44	5220	0.60	2.02	11.00	1.80		Pass
11a	6Mbps	1	48	5240	0.60	2.87	11.00	1.80		Pass
HT20	MCS0	1	36	5180	0.64	2.07	11.00	1.80		Pass
HT20	MCS0	1	44	5220	0.64	2.10	11.00	1.80		Pass
HT20	MCS0	1	48	5240	0.64	2.39	11.00	1.80		Pass
HT40	MCS0	1	38	5190	0.64	-0.42	11.00	1.80		Pass
HT40	MCS0	1	46	5230	0.64	-0.71	11.00	1.80		Pass
VHT80	MCS0	1	42	5210	2.58	-3.49	11.00	1.80		Pass

Report Number : FR782206D

TEST RESULTS DATA
26dB and 99% OBW

Band II								
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	FCC 26dB Bandwidth Power Limit (dBm)	Note
11a	6M bps	1	52	5260	18.53	23.73	23.98	
11a	6M bps	1	60	5300	18.48	23.43	23.98	
11a	6M bps	1	64	5320	18.53	23.33	23.98	
HT20	MCS 0	1	52	5260	19.18	23.58	23.98	
HT20	MCS 0	1	60	5300	19.23	23.93	23.98	
HT20	MCS 0	1	64	5320	19.23	23.73	23.98	
HT40	MCS 0	1	54	5270	36.46	44.33	23.98	
HT40	MCS 0	1	62	5310	36.86	44.15	23.98	
VHT80	MCS 0	1	58	5290	74.81	83.76	23.98	

Report Number : FR782206D

TEST RESULTS DATA
Average Power Table

FCC Band II										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6M bps	1	52	5260	0.60	13.11	23.98	1.30	26.99	Pass
11a	6M bps	1	60	5300	0.60	13.21	23.98	1.30	26.99	Pass
11a	6M bps	1	64	5320	0.60	13.02	23.98	1.30	26.99	Pass
HT20	MCS 0	1	52	5260	0.64	13.14	23.98	1.30	26.99	Pass
HT20	MCS 0	1	60	5300	0.64	13.09	23.98	1.30	26.99	Pass
HT20	MCS 0	1	64	5320	0.64	13.13	23.98	1.30	26.99	Pass
HT40	MCS 0	1	54	5270	0.64	13.13	23.98	1.30	26.99	Pass
HT40	MCS 0	1	62	5310	0.64	13.17	23.98	1.30	26.99	Pass
VHT80	MCS 0	1	58	5290	2.58	12.90	23.98	1.30	26.99	Pass

Report Number : FR782206D

TEST RESULTS DATA
Power Spectral Density

Band II										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)		Pass/Fail
11a	6M bps	1	52	5260	0.60	2.47	11.00	1.30		Pass
11a	6M bps	1	60	5300	0.60	1.61	11.00	1.30		Pass
11a	6M bps	1	64	5320	0.60	2.27	11.00	1.30		Pass
HT20	MCS 0	1	52	5260	0.64	1.98	11.00	1.30		Pass
HT20	MCS 0	1	60	5300	0.64	1.61	11.00	1.30		Pass
HT20	MCS 0	1	64	5320	0.64	1.60	11.00	1.30		Pass
HT40	MCS 0	1	54	5270	0.64	-0.40	11.00	1.30		Pass
HT40	MCS 0	1	62	5310	0.64	-0.58	11.00	1.30		Pass
VHT80	MCS 0	1	58	5290	2.58	-3.77	11.00	1.30		Pass

Report Number : FR782206D

TEST RESULTS DATA
26dB and 99% OBW

Band III								
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	FCC 26dB Bandwidth Power Limit (dBm)	Note
11a	6M bps	1	100	5500	18.68	23.58	23.98	
11a	6M bps	1	116	5580	18.58	23.33	23.98	
11a	6M bps	1	140	5700	18.73	23.58	23.98	
HT20	MCS 0	1	100	5500	19.28	23.58	23.98	
HT20	MCS 0	1	116	5580	19.28	23.48	23.98	
HT20	MCS 0	1	140	5700	19.43	23.78	23.98	
HT40	MCS 0	1	102	5510	36.86	45.05	23.98	
HT40	MCS 0	1	110	5550	36.86	45.67	23.98	
HT40	MCS 0	1	134	5670	36.76	44.69	23.98	
VHT80	MCS 0	1	106	5530	74.81	84.56	23.98	
VHT80	MCS 0	1	122	5610	74.81	84.08	23.98	

Report Number : FR782206D

TEST RESULTS DATA
Average Power Table

FCC Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6M bps	1	100	5500	0.60	13.11	23.98	0.90	26.99	Pass
11a	6M bps	1	116	5580	0.60	12.92	23.98	0.90	26.99	Pass
11a	6M bps	1	140	5700	0.60	13.00	23.98	0.90	26.99	Pass
HT20	MCS 0	1	100	5500	0.64	13.05	23.98	0.90	26.99	Pass
HT20	MCS 0	1	116	5580	0.64	13.12	23.98	0.90	26.99	Pass
HT20	MCS 0	1	140	5700	0.64	12.97	23.98	0.90	26.99	Pass
HT40	MCS 0	1	102	5510	0.64	13.10	23.98	0.90	26.99	Pass
HT40	MCS 0	1	110	5550	0.64	13.01	23.98	0.90	26.99	Pass
HT40	MCS 0	1	134	5670	0.64	13.16	23.98	0.90	26.99	Pass
VHT80	MCS 0	1	106	5530	2.58	12.73	23.98	0.90	26.99	Pass
VHT80	MCS 0	1	122	5610	2.58	12.93	23.98	0.90	26.99	Pass

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TEST RESULTS DATA
Power Spectral Density

Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)		Pass/Fail
11a	6M bps	1	100	5500	0.60	2.07	11.00	0.90		Pass
11a	6M bps	1	116	5580	0.60	2.05	11.00	0.90		Pass
11a	6M bps	1	140	5700	0.60	1.70	11.00	0.90		Pass
HT20	MCS 0	1	100	5500	0.64	1.85	11.00	0.90		Pass
HT20	MCS 0	1	116	5580	0.64	1.61	11.00	0.90		Pass
HT20	MCS 0	1	140	5700	0.64	1.68	11.00	0.90		Pass
HT40	MCS 0	1	102	5510	0.64	-0.79	11.00	0.90		Pass
HT40	MCS 0	1	110	5550	0.64	-0.89	11.00	0.90		Pass
HT40	MCS0	1	134	5670	0.64	-0.65	11.00	0.90		Pass
VHT80	MCS 0	1	106	5530	2.58	-3.59	11.00	0.90		Pass
VHT80	MCS 0	1	122	5610	2.58	-3.83	11.00	0.90		Pass

Report Number : FR782206D

TEST RESULTS DATA
Frequency Stability

Band I										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stablility (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	50	3.85	
11a	6Mbps	1	36	5180	5180.025	0.025	4.83	-30	3.85	
11a	6Mbps	1	36	5180	5180.025	0.025	4.83	20	4.4	
11a	6Mbps	1	36	5180	5180.025	0.025	4.83	20	3.6	
11a	6Mbps	1	36	5180	5180.025	0.025	4.83	20	3.85	

Band II										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stablility (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	50	3.85	
11a	6Mbps	1	64	5320	5320.050	0.050	9.40	-30	3.85	
11a	6Mbps	1	64	5320	5320.025	0.025	4.70	20	4.4	
11a	6Mbps	1	64	5320	5320.025	0.025	4.70	20	3.6	
11a	6Mbps	1	64	5320	5320.025	0.025	4.70	20	3.85	

Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stablility (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	100	5500	5500.000	0.000	0.00	50	3.85	
11a	6Mbps	1	100	5500	5500.050	0.050	9.09	-30	3.85	
11a	6Mbps	1	100	5500	5500.050	0.050	9.09	20	4.4	
11a	6Mbps	1	100	5500	5500.050	0.050	9.09	20	3.6	
11a	6Mbps	1	100	5500	5500.025	0.025	4.55	20	3.85	

Appendix B. Radiated Spurious Emission

Band 1 - 5150~5250MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		5127.52	54.24	-19.76	74	47.73	31.19	11.86	36.54	300	146	P	H
		5127.68	46.71	-7.29	54	40.2	31.19	11.86	36.54	300	146	A	H
	*	5176	107.23	-	-	100.68	31.14	11.93	36.52	300	146	P	H
	*	5176	99.84	-	-	93.29	31.14	11.93	36.52	300	146	A	H
		5127.2	53.36	-20.64	74	46.85	31.19	11.86	36.54	283	50	P	V
		5127.68	45.4	-8.6	54	38.89	31.19	11.86	36.54	283	50	A	V
	*	5184	105.12	-	-	98.57	31.14	11.93	36.52	283	50	P	V
	*	5184	97.62	-	-	91.07	31.14	11.93	36.52	283	50	A	V
802.11a CH 44 5220MHz		5122.4	49.39	-24.61	74	42.9	31.2	11.84	36.55	331	157	P	H
		5101.92	40.15	-13.85	54	33.67	31.22	11.82	36.56	331	157	A	H
	*	5216	108.01	-	-	101.43	31.11	11.97	36.5	331	157	P	H
	*	5216	100.65	-	-	94.07	31.11	11.97	36.5	331	157	A	H
		5362.74	48.1	-25.9	74	41.41	30.96	12.15	36.42	331	157	P	H
		5353.56	38.92	-15.08	54	32.24	30.98	12.13	36.43	331	157	A	H
		5120.32	49.62	-24.38	74	43.13	31.2	11.84	36.55	311	50	P	V
		5101.76	40.08	-13.92	54	33.6	31.22	11.82	36.56	311	50	A	V
	*	5228	105.36	-	-	98.77	31.09	11.99	36.49	311	50	P	V
	*	5228	98.37	-	-	91.78	31.09	11.99	36.49	311	50	A	V
		5370.66	47.48	-26.52	74	40.79	30.96	12.15	36.42	311	50	P	V
		5391	38.87	-15.13	54	32.18	30.94	12.17	36.42	311	50	A	V

802.11a CH 48 5240MHz	*	5236	107.41	-	-	100.82	31.09	11.99	36.49	396	344	P	H
	*	5236	100.32	-	-	93.73	31.09	11.99	36.49	396	344	A	H
		5376.24	48.5	-25.5	74	41.81	30.96	12.15	36.42	396	344	P	H
		5399.82	39.4	-14.6	54	32.69	30.93	12.19	36.41	396	344	A	H
	*	5246	105.31	-	-	98.71	31.07	12.01	36.48	310	261	P	V
	*	5246	98.08	-	-	91.48	31.07	12.01	36.48	310	261	A	V
		5389.2	49.06	-24.94	74	42.37	30.94	12.17	36.42	310	261	P	V
		5355.72	39.11	-14.89	54	32.43	30.98	12.13	36.43	310	261	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	43.19	-30.81	74	56.29	37.4	15.65	66.15	300	0	P	H
		10360	44.27	-29.73	74	57.37	37.4	15.65	66.15	100	360	P	V
802.11a CH 44 5220MHz		10440	43.79	-30.21	74	56.74	37.47	15.68	66.1	300	0	P	H
		10440	44.74	-29.26	74	57.69	37.47	15.68	66.1	100	360	P	V
802.11a CH 48 5240MHz		10480	45.35	-28.65	74	58.2	37.52	15.7	66.07	300	360	P	H
		10480	46.43	-27.57	74	59.28	37.52	15.7	66.07	100	0	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		5128.16	52.06	-21.94	74	45.55	31.19	11.86	36.54	400	302	P	H
		5128.16	44.83	-9.17	54	38.32	31.19	11.86	36.54	400	302	A	H
	*	5172	103.93	-	-	97.4	31.15	11.9	36.52	400	302	P	H
	*	5172	96.27	-	-	89.74	31.15	11.9	36.52	400	302	A	H
		5127.84	55.96	-18.04	74	49.45	31.19	11.86	36.54	281	33	P	V
		5128.32	48.28	-5.72	54	41.77	31.19	11.86	36.54	281	33	A	V
	*	5184	108.32	-	-	101.77	31.14	11.93	36.52	281	33	P	V
	*	5184	101.06	-	-	94.51	31.14	11.93	36.52	281	33	A	V
802.11n HT20 CH 44 5220MHz		5124.8	49.12	-24.88	74	42.61	31.19	11.86	36.54	395	301	P	H
		5107.2	39.84	-14.16	54	33.35	31.2	11.84	36.55	395	301	A	H
	*	5214	104.25	-	-	97.67	31.11	11.97	36.5	395	301	P	H
	*	5214	96.85	-	-	90.27	31.11	11.97	36.5	395	301	A	H
		5382	47.66	-26.34	74	40.97	30.94	12.17	36.42	395	301	P	H
		5386.86	38.86	-15.14	54	32.17	30.94	12.17	36.42	395	301	A	H
		5133.12	49.59	-24.41	74	43.08	31.19	11.86	36.54	266	32	P	V
		5120.8	40.04	-13.96	54	33.55	31.2	11.84	36.55	266	32	A	V
	*	5228	109.16	-	-	102.57	31.09	11.99	36.49	266	32	P	V
	*	5228	102.03	-	-	95.44	31.09	11.99	36.49	266	32	A	V
		5381.1	48.81	-25.19	74	42.12	30.94	12.17	36.42	266	32	P	V
		5393.16	39.01	-14.99	54	32.32	30.94	12.17	36.42	266	32	A	V

802.11n HT20 CH 48 5240MHz	*	5232	103.45	-	-	96.86	31.09	11.99	36.49	400	300	P	H
	*	5232	96.14	-	-	89.55	31.09	11.99	36.49	400	300	A	H
		5387.58	47.86	-26.14	74	41.17	30.94	12.17	36.42	400	300	P	H
		5394.24	38.81	-15.19	54	32.12	30.94	12.17	36.42	400	300	A	H
	*	5234	108.99	-	-	102.4	31.09	11.99	36.49	268	24	P	V
	*	5234	101.77	-	-	95.18	31.09	11.99	36.49	268	24	A	V
		5390.46	47.97	-26.03	74	41.28	30.94	12.17	36.42	268	24	P	V
		5353.2	39.2	-14.8	54	32.52	30.98	12.13	36.43	268	24	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	46.5	-27.5	74	59.6	37.4	15.65	66.15	300	360	P	H
		10360	44.09	-29.91	74	57.19	37.4	15.65	66.15	100	0	P	V
802.11n HT20 CH 44 5220MHz		10440	46.78	-27.22	74	59.73	37.47	15.68	66.1	300	360	P	H
		10440	43.62	-30.38	74	56.57	37.47	15.68	66.1	100	0	P	V
802.11n HT20 CH 48 5240MHz		10480	47.9	-26.1	74	60.75	37.52	15.7	66.07	300	360	P	H
		10480	43.58	-30.42	74	56.43	37.52	15.7	66.07	100	0	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		5149.12	52.68	-21.32	74	46.16	31.17	11.88	36.53	377	302	P	H
		5148.8	42.52	-11.48	54	36	31.17	11.88	36.53	377	302	A	H
	*	5184	101.72	-	-	95.17	31.14	11.93	36.52	377	302	P	H
	*	5184	93.28	-	-	86.73	31.14	11.93	36.52	377	302	A	H
		5359.86	48.21	-25.79	74	41.53	30.98	12.13	36.43	377	302	P	H
		5388.48	39.12	-14.88	54	32.43	30.94	12.17	36.42	377	302	A	H
		5148	56.85	-17.15	74	50.33	31.17	11.88	36.53	282	109	P	V
		5149.92	46.08	-7.92	54	39.56	31.17	11.88	36.53	282	109	A	V
	*	5180	106.18	-	-	99.63	31.14	11.93	36.52	282	109	P	V
	*	5180	99.25	-	-	92.7	31.14	11.93	36.52	282	109	A	V
		5368.32	48.64	-25.36	74	41.95	30.96	12.15	36.42	282	109	P	V
		5397.66	39.19	-14.81	54	32.48	30.93	12.19	36.41	282	109	A	V
802.11n HT40 CH 46 5230MHz		5125.92	50.41	-23.59	74	43.9	31.19	11.86	36.54	364	302	P	H
		5127.36	41.66	-12.34	54	35.15	31.19	11.86	36.54	364	302	A	H
	*	5222	99.15	-	-	92.57	31.11	11.97	36.5	364	302	P	H
	*	5222	92	-	-	85.42	31.11	11.97	36.5	364	302	A	H
		5396.04	47.98	-26.02	74	41.27	30.93	12.19	36.41	364	302	P	H
		5389.2	38.87	-15.13	54	32.18	30.94	12.17	36.42	364	302	A	H
		5126.08	52.65	-21.35	74	46.14	31.19	11.86	36.54	274	108	P	V
		5127.36	44.9	-9.1	54	38.39	31.19	11.86	36.54	274	108	A	V
	*	5218	106.42	-	-	99.84	31.11	11.97	36.5	274	108	P	V
	*	5218	99.11	-	-	92.53	31.11	11.97	36.5	274	108	A	V
		5398.02	48.25	-25.75	74	41.54	30.93	12.19	36.41	274	108	P	V
		5362.92	39.63	-14.37	54	32.94	30.96	12.15	36.42	274	108	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		10380	47.8	-26.2	74	60.87	37.41	15.66	66.14	100	360	P	H
		10380	45.82	-28.18	74	58.89	37.41	15.66	66.14	300	0	P	V
802.11n HT40 CH 46 5230MHz		10460	50.09	-23.91	74	63	37.49	15.69	66.09	300	0	P	H
		10460	44.71	-29.29	74	57.62	37.49	15.69	66.09	200	360	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		5116.64	53.86	-20.14	74	47.37	31.2	11.84	36.55	300	211	P	H
		5133.76	45.87	-8.13	54	39.36	31.19	11.86	36.54	300	211	A	H
	*	5192	96.47	-	-	89.91	31.12	11.95	36.51	300	211	P	H
	*	5192	89.54	-	-	82.98	31.12	11.95	36.51	300	211	A	H
		5353.38	48.83	-25.17	74	42.15	30.98	12.13	36.43	300	211	P	H
		5354.46	40.85	-13.15	54	34.17	30.98	12.13	36.43	300	211	A	H
		5139.36	58.13	-15.87	74	51.62	31.19	11.86	36.54	299	29	P	V
		5142.24	48.64	-5.36	54	42.12	31.17	11.88	36.53	299	29	A	V
	*	5204	103.14	-	-	96.58	31.12	11.95	36.51	299	29	P	V
	*	5204	96.48	-	-	89.92	31.12	11.95	36.51	299	29	A	V
		5355.72	48.72	-25.28	74	42.04	30.98	12.13	36.43	299	29	P	V
		5396.94	41.79	-12.21	54	35.08	30.93	12.19	36.41	299	29	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 42 5210MHz		10420	44.06	-29.94	74	57.06	37.45	15.67	66.12	300	360	P	H
		10420	41.33	-32.67	74	54.33	37.45	15.67	66.12	100	0	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 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		5126.56	49.96	-24.04	74	43.45	31.19	11.86	36.54	293	142	P	H
		5107.52	40.21	-13.79	54	33.72	31.2	11.84	36.55	293	142	A	H
	*	5254	108.3	-	-	101.7	31.07	12.01	36.48	293	142	P	H
	*	5254	101.09	-	-	94.49	31.07	12.01	36.48	293	142	A	H
		5122.08	51.26	-22.74	74	44.77	31.2	11.84	36.55	307	49	P	V
		5118.4	40.07	-13.93	54	33.58	31.2	11.84	36.55	307	49	A	V
	*	5254	106.02	-	-	99.42	31.07	12.01	36.48	307	49	P	V
	*	5254	98.67	-	-	92.07	31.07	12.01	36.48	307	49	A	V
802.11a CH 60 5300MHz		5130.56	49.67	-24.33	74	43.16	31.19	11.86	36.54	301	158	P	H
		5105.12	40.13	-13.87	54	33.65	31.22	11.82	36.56	301	158	A	H
	*	5306	107.89	-	-	101.26	31.02	12.07	36.46	301	158	P	H
	*	5306	100.69	-	-	94.06	31.02	12.07	36.46	301	158	A	H
		5352.6	53.93	-20.07	74	47.25	30.98	12.13	36.43	301	158	P	H
		5352.3	46.41	-7.59	54	39.73	30.98	12.13	36.43	301	158	A	H
		5139.36	49.31	-24.69	74	42.8	31.19	11.86	36.54	305	51	P	V
		5103.84	40.02	-13.98	54	33.54	31.22	11.82	36.56	305	51	A	V
	*	5304	104.69	-	-	98.06	31.02	12.07	36.46	305	51	P	V
	*	5304	97.95	-	-	91.32	31.02	12.07	36.46	305	51	A	V
		5352.3	51.93	-22.07	74	45.25	30.98	12.13	36.43	305	51	P	V
		5352.4	43.61	-10.39	54	36.93	30.98	12.13	36.43	305	51	A	V

802.11a CH 64 5320MHz	*	5328	107.6	-	-	100.94	30.99	12.11	36.44	303	142	P	H
	*	5328	100.43	-	-	93.77	30.99	12.11	36.44	303	142	A	H
		5372.6	53.7	-20.3	74	47.01	30.96	12.15	36.42	303	142	P	H
		5372.4	47.05	-6.95	54	40.36	30.96	12.15	36.42	303	142	A	H
	*	5326	104.48	-	-	97.83	31.01	12.09	36.45	300	51	P	V
	*	5326	97.16	-	-	90.51	31.01	12.09	36.45	300	51	A	V
		5372	52.06	-21.94	74	45.37	30.96	12.15	36.42	300	51	P	V
		5372.4	43.15	-10.85	54	36.46	30.96	12.15	36.42	300	51	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	43.67	-30.33	74	56.43	37.56	15.72	66.04	300	360	P	H
		10520	44.18	-29.82	74	56.94	37.56	15.72	66.04	100	0	P	V
802.11a CH 60 5300MHz		10600	43.74	-30.26	74	56.32	37.65	15.75	65.98	300	360	P	H
		10600	44.41	-29.59	74	56.99	37.65	15.75	65.98	100	0	P	V
802.11a CH 64 5320MHz		10640	44.09	-29.91	74	56.6	37.68	15.77	65.96	300	360	P	H
		10640	44.75	-29.25	74	57.26	37.68	15.77	65.96	100	0	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		5110.4	50.17	-23.83	74	43.68	31.2	11.84	36.55	193	242	P	H
		5107.04	39.96	-14.04	54	33.47	31.2	11.84	36.55	193	242	A	H
	*	5266	99.03	-	-	92.41	31.06	12.03	36.47	193	242	P	H
	*	5266	92.14	-	-	85.52	31.06	12.03	36.47	193	242	A	H
		5117.6	49.98	-24.02	74	43.49	31.2	11.84	36.55	269	125	P	V
		5105.6	40.1	-13.9	54	33.61	31.2	11.84	36.55	269	125	A	V
	*	5266	109	-	-	102.38	31.06	12.03	36.47	269	125	P	V
	*	5266	101.7	-	-	95.08	31.06	12.03	36.47	269	125	A	V
802.11n HT20 CH 60 5300MHz		5108.48	49.62	-24.38	74	43.13	31.2	11.84	36.55	100	247	P	H
		5103.04	39.94	-14.06	54	33.46	31.22	11.82	36.56	100	247	A	H
	*	5298	98.18	-	-	91.55	31.02	12.07	36.46	100	247	P	H
	*	5298	90.94	-	-	84.31	31.02	12.07	36.46	100	247	A	H
		5351.6	49.2	-24.8	74	42.52	30.98	12.13	36.43	100	247	P	H
		5351.9	41.63	-12.37	54	34.95	30.98	12.13	36.43	100	247	A	H
		5115.68	49.8	-24.2	74	43.31	31.2	11.84	36.55	273	103	P	V
		5112	40.22	-13.78	54	33.73	31.2	11.84	36.55	273	103	A	V
	*	5304	109.18	-	-	102.55	31.02	12.07	36.46	273	103	P	V
	*	5304	100.77	-	-	94.14	31.02	12.07	36.46	273	103	A	V
		5352	55.21	-18.79	74	48.53	30.98	12.13	36.43	273	103	P	V
		5352	48.38	-5.62	54	41.7	30.98	12.13	36.43	273	103	A	V

802.11n HT20 CH 64 5320MHz	*	5324	98.55	-	-	91.9	31.01	12.09	36.45	100	246	P	H
	*	5324	90.96	-	-	84.31	31.01	12.09	36.45	100	246	A	H
		5375.1	49.17	-24.83	74	42.48	30.96	12.15	36.42	100	246	P	H
		5371.8	41.5	-12.5	54	34.81	30.96	12.15	36.42	100	246	A	H
	*	5318	107.32	-	-	100.67	31.01	12.09	36.45	254	119	P	V
	*	5318	100.02	-	-	93.37	31.01	12.09	36.45	254	119	A	V
		5372.4	54.21	-19.79	74	47.52	30.96	12.15	36.42	254	119	P	V
		5371.7	46.43	-7.57	54	39.74	30.96	12.15	36.42	254	119	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	47.56	-26.44	74	60.32	37.56	15.72	66.04	300	360	P	H
		10520	44.83	-29.17	74	57.59	37.56	15.72	66.04	300	0	P	V
802.11n HT20 CH 60 5300MHz		10600	49.46	-24.54	74	62.04	37.65	15.75	65.98	100	360	P	H
		10600	44.84	-29.16	74	57.42	37.65	15.75	65.98	300	0	P	V
802.11n HT20 CH 64 5320MHz		10640	48.94	-25.06	74	61.45	37.68	15.77	65.96	300	0	P	H
		10640	45.17	-28.83	74	57.68	37.68	15.77	65.96	100	360	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		5149.99	49.19	-24.81	74	42.67	31.17	11.88	36.53	381	298	P	H
		5108	40.09	-13.91	54	33.6	31.2	11.84	36.55	381	298	A	H
	*	5260	98.83	-	-	92.21	31.06	12.03	36.47	381	298	P	H
	*	5260	91.76	-	-	85.14	31.06	12.03	36.47	381	298	A	H
		5393.8	48.77	-25.23	74	42.08	30.94	12.17	36.42	381	298	P	H
		5372.7	40.03	-13.97	54	33.34	30.96	12.15	36.42	381	298	A	H
		5104.48	50.12	-23.88	74	43.64	31.22	11.82	36.56	276	82	P	V
		5134.72	40.14	-13.86	54	33.63	31.19	11.86	36.54	276	82	A	V
	*	5262	105.77	-	-	99.15	31.06	12.03	36.47	276	82	P	V
	*	5262	98.62	-	-	92	31.06	12.03	36.47	276	82	A	V
		5372.9	52.21	-21.79	74	45.52	30.96	12.15	36.42	276	82	P	V
		5372.8	44.27	-9.73	54	37.58	30.96	12.15	36.42	276	82	A	V
802.11n HT40 CH 62 5310MHz		5144.64	49.86	-24.14	74	43.34	31.17	11.88	36.53	398	243	P	H
		5104.64	39.98	-14.02	54	33.5	31.22	11.82	36.56	398	243	A	H
	*	5296	96.96	-	-	90.33	31.02	12.07	36.46	398	243	P	H
	*	5296	89.91	-	-	83.28	31.02	12.07	36.46	398	243	A	H
		5355.2	52.35	-21.65	74	45.67	30.98	12.13	36.43	398	243	P	H
		5350.7	40.56	-13.44	54	33.88	30.98	12.13	36.43	398	243	A	H
		5105.28	49.73	-24.27	74	43.25	31.22	11.82	36.56	266	117	P	V
		5103.84	40.17	-13.83	54	33.69	31.22	11.82	36.56	266	117	A	V
	*	5304	106.58	-	-	99.95	31.02	12.07	36.46	266	117	P	V
	*	5304	99.95	-	-	93.32	31.02	12.07	36.46	266	117	A	V
		5350.01	58.08	-15.92	74	51.4	30.98	12.13	36.43	266	117	P	V
		5350.2	46.74	-7.26	54	40.06	30.98	12.13	36.43	266	117	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 54 5270MHz		10540	46.84	-27.16	74	59.57	37.58	15.72	66.03	300	360	P	H
		10540	43.14	-30.86	74	55.87	37.58	15.72	66.03	100	0	P	V
802.11n HT40 CH 62 5310MHz		10620	43.13	-30.87	74	55.67	37.67	15.76	65.97	300	0	P	H
		10620	42.8	-31.2	74	55.34	37.67	15.76	65.97	100	0	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		5111.68	49.44	-24.56	74	42.95	31.2	11.84	36.55	105	246	P	H
		5132.48	41.98	-12.02	54	35.47	31.19	11.86	36.54	105	246	A	H
	*	5282	92.17	-	-	85.55	31.04	12.05	36.47	105	246	P	H
	*	5282	85.82	-	-	79.2	31.04	12.05	36.47	105	246	A	H
		5360.04	50.13	-23.87	74	43.45	30.98	12.13	36.43	105	246	P	H
		5350.68	42.29	-11.71	54	35.61	30.98	12.13	36.43	105	246	A	H
		5137.76	49.54	-24.46	74	43.03	31.19	11.86	36.54	277	73	P	V
		5137.28	42.37	-11.63	54	35.86	31.19	11.86	36.54	277	73	A	V
	*	5272	102.67	-	-	96.05	31.06	12.03	36.47	277	73	P	V
	*	5272	95.67	-	-	89.05	31.06	12.03	36.47	277	73	A	V
		5358.42	59.7	-14.3	74	53.02	30.98	12.13	36.43	277	73	P	V
		5350.14	50.83	-3.17	54	44.15	30.98	12.13	36.43	277	73	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 58 5290MHz		10580	42.67	-31.33	74	55.29	37.63	15.75	66	300	360	P	H
		10580	42.16	-31.84	74	54.78	37.63	15.75	66	100	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 802.11a (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 100 5500MHz		5447.6	54.15	-19.85	74	47.4	30.88	12.25	36.38	100	139	P	H
		5447.76	46.19	-7.81	54	39.44	30.88	12.25	36.38	100	139	A	H
	*	5504	106.35	-	-	99.56	30.83	12.32	36.36	100	139	P	H
	*	5504	98.36	-	-	91.57	30.83	12.32	36.36	100	139	A	H
		5446.96	49.27	-24.73	74	42.52	30.88	12.25	36.38	300	49	P	V
		5447.6	41.85	-12.15	54	35.1	30.88	12.25	36.38	300	49	A	V
	*	5506	100.39	-	-	93.6	30.83	12.32	36.36	300	49	P	V
	*	5506	93.14	-	-	86.35	30.83	12.32	36.36	300	49	A	V
802.11a CH 116 5580MHz		5442.8	49	-25	74	42.27	30.89	12.23	36.39	100	142	P	H
		5383.92	39.69	-14.31	54	33	30.94	12.17	36.42	100	142	A	H
	*	5574	106.41	-	-	99.57	30.76	12.4	36.32	100	142	P	H
	*	5574	98.65	-	-	91.81	30.76	12.4	36.32	100	142	A	H
		5756.76	50.03	-23.97	74	42.15	31.56	12.6	36.28	100	142	P	H
		5753.24	40.44	-13.56	54	32.56	31.56	12.6	36.28	100	142	A	H
		5410.64	48.63	-25.37	74	41.92	30.93	12.19	36.41	305	48	P	V
		5468.72	39.37	-14.63	54	32.61	30.86	12.27	36.37	305	48	A	V
	*	5586	101.87	-	-	95.02	30.75	12.42	36.32	305	48	P	V
	*	5586	94.66	-	-	87.81	30.75	12.42	36.32	305	48	A	V
		5728.44	50.28	-23.72	74	42.67	31.32	12.57	36.28	305	48	P	V
		5746.04	40.45	-13.55	54	32.7	31.44	12.59	36.28	305	48	A	V

802.11a CH 140 5700MHz	*	5696	106.62	-	-	99.31	31.07	12.53	36.29	100	138	P	H
	*	5696	98.61	-	-	91.3	31.07	12.53	36.29	100	138	A	H
		5752.76	53.16	-20.84	74	45.28	31.56	12.6	36.28	100	138	P	H
		5752.36	46.56	-7.44	54	38.68	31.56	12.6	36.28	100	138	A	H
	*	5704	102.59	-	-	95.13	31.19	12.55	36.28	300	45	P	V
	*	5704	95.67	-	-	88.21	31.19	12.55	36.28	300	45	A	V
		5752.36	51.02	-22.98	74	43.14	31.56	12.6	36.28	300	45	P	V
		5752.36	43.94	-10.06	54	36.06	31.56	12.6	36.28	300	45	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	46.22	-27.78	74	57.94	38.06	15.92	65.7	100	360	P	H
		11000	46.86	-27.14	74	58.58	38.06	15.92	65.7	300	0	P	V
802.11a CH 116 5580MHz		11160	47.38	-26.62	74	58.73	38.24	15.99	65.58	300	360	P	H
		11160	49.59	-24.41	74	60.94	38.24	15.99	65.58	300	360	P	V
802.11a CH 140 5700MHz		11400	50.43	-23.57	74	61.25	38.49	16.1	65.41	300	360	P	H
		11400	49.56	-24.44	74	60.38	38.49	16.1	65.41	300	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 802.11n 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		5446.32	50.87	-23.13	74	44.12	30.88	12.25	36.38	217	249	P	H
		5448.08	43.34	-10.66	54	36.59	30.88	12.25	36.38	217	249	A	H
	*	5494	100.51	-	-	93.73	30.85	12.3	36.37	217	249	P	H
	*	5494	93.03	-	-	86.25	30.85	12.3	36.37	217	249	A	H
		5448.24	54.19	-19.81	74	47.44	30.88	12.25	36.38	259	47	P	V
		5448.24	47.35	-6.65	54	40.6	30.88	12.25	36.38	259	47	A	V
	*	5492	104.97	-	-	98.19	30.85	12.3	36.37	259	47	P	V
	*	5492	97.53	-	-	90.75	30.85	12.3	36.37	259	47	A	V
802.11n HT20 CH 116 5580MHz		5366	48.29	-25.71	74	41.6	30.96	12.15	36.42	100	248	P	H
		5433.84	38.69	-15.31	54	31.96	30.89	12.23	36.39	100	248	A	H
	*	5584	98.31	-	-	91.46	30.75	12.42	36.32	100	248	P	H
	*	5584	90.86	-	-	84.01	30.75	12.42	36.32	100	248	A	H
		5756.6	48.99	-25.01	74	41.11	31.56	12.6	36.28	100	248	P	H
		5740.28	39.91	-14.09	54	32.16	31.44	12.59	36.28	100	248	A	H
		5387.12	48.61	-25.39	74	41.92	30.94	12.17	36.42	309	29	P	V
		5392.4	39.41	-14.59	54	32.72	30.94	12.17	36.42	309	29	A	V
	*	5578	106.42	-	-	99.58	30.76	12.4	36.32	309	29	P	V
	*	5578	99.37	-	-	92.53	30.76	12.4	36.32	309	29	A	V
		5747.08	49.99	-24.01	74	42.24	31.44	12.59	36.28	309	29	P	V
		5763.88	39.86	-14.14	54	31.98	31.56	12.6	36.28	309	29	A	V

802.11n HT20 CH 140 5700MHz	*	5692	96.86	-	-	89.55	31.07	12.53	36.29	300	42	P	H
	*	5692	89.28	-	-	81.97	31.07	12.53	36.29	300	42	A	H
		5749.56	49.14	-24.86	74	41.39	31.44	12.59	36.28	300	42	P	H
		5752.2	41.35	-12.65	54	33.47	31.56	12.6	36.28	300	42	A	H
	*	5696	105.19	-	-	97.88	31.07	12.53	36.29	300	29	P	V
	*	5696	97.94	-	-	90.63	31.07	12.53	36.29	300	29	A	V
		5725.8	53.5	-20.5	74	45.89	31.32	12.57	36.28	300	29	P	V
		5751.88	46.12	-7.88	54	38.24	31.56	12.6	36.28	300	29	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 HT20 CH 100 5500MHz		11000	53.71	-20.29	74	65.43	38.06	15.92	65.7	100	35	P	H
		11000	49.85	-4.15	54	61.57	38.06	15.92	65.7	100	35	A	H
		11000	47.72	-26.28	74	59.44	38.06	15.92	65.7	300	0	P	V
802.11n HT20 CH 116 5580MHz		11160	55.27	-18.73	74	66.62	38.24	15.99	65.58	100	360	P	H
		11160	51.24	-2.76	54	62.59	38.24	15.99	65.58	105	37	A	H
		11160	49.68	-24.32	74	61.03	38.24	15.99	65.58	300	0	P	V
802.11n HT20 CH 140 5700MHz		11400	54.53	-19.47	74	65.35	38.49	16.1	65.41	100	340	P	H
		11400	51.3	-2.7	54	62.12	38.49	16.1	65.41	182	31	A	H
		11400	49.52	-24.48	74	60.34	38.49	16.1	65.41	300	359	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		5467.76	51.62	-22.38	74	44.86	30.86	12.27	36.37	245	248	P	H
		5468.24	42.32	-11.68	54	35.56	30.86	12.27	36.37	245	248	A	H
	*	5522	97.32	-	-	90.52	30.81	12.34	36.35	245	248	P	H
	*	5522	89.87	-	-	83.07	30.81	12.34	36.35	245	248	A	H
		5748.68	51.7	-22.3	74	43.95	31.44	12.59	36.28	245	248	P	H
		5750.2	40.26	-13.74	54	32.51	31.44	12.59	36.28	245	248	A	H
		5468.56	56.42	-17.58	74	49.66	30.86	12.27	36.37	397	64	P	V
		5469.2	46.59	-7.41	54	39.83	30.86	12.27	36.37	397	64	A	V
	*	5496	103.06	-	-	96.28	30.85	12.3	36.37	397	64	P	V
	*	5496	96.04	-	-	89.26	30.85	12.3	36.37	397	64	A	V
		5760.6	49.79	-24.21	74	41.91	31.56	12.6	36.28	397	64	P	V
		5763.08	40.34	-13.66	54	32.46	31.56	12.6	36.28	397	64	A	V
802.11n HT40 CH 110 5550MHz		5444.24	48.56	-25.44	74	41.83	30.89	12.23	36.39	301	125	P	H
		5446.64	40	-14	54	33.25	30.88	12.25	36.38	301	125	A	H
	*	5556	95.62	-	-	88.79	30.78	12.38	36.33	301	125	P	H
	*	5556	88.28	-	-	81.45	30.78	12.38	36.33	301	125	A	H
		5750.92	50.33	-23.67	74	42.58	31.44	12.59	36.28	301	125	P	H
		5749.72	40.27	-13.73	54	32.52	31.44	12.59	36.28	301	125	A	H
		5446.16	51.44	-22.56	74	44.69	30.88	12.25	36.38	301	68	P	V
		5447.28	44.06	-9.94	54	37.31	30.88	12.25	36.38	301	68	A	V
	*	5542	102.54	-	-	95.72	30.8	12.36	36.34	301	68	P	V
	*	5542	95.17	-	-	88.35	30.8	12.36	36.34	301	68	A	V
		5738.04	49.69	-24.31	74	41.94	31.44	12.59	36.28	301	68	P	V
		5762.44	40.35	-13.65	54	32.47	31.56	12.6	36.28	301	68	A	V

802.11n HT40 CH 134 5670MHz		5423.92	48.67	-25.33	74	41.95	30.91	12.21	36.4	297	130	P	H
		5454	39.4	-14.6	54	32.65	30.88	12.25	36.38	297	130	A	H
	*	5668	96.43	-	-	89.25	30.95	12.52	36.29	297	130	P	H
	*	5668	89.68	-	-	82.5	30.95	12.52	36.29	297	130	A	H
		5747.64	49.52	-24.48	74	41.77	31.44	12.59	36.28	297	130	P	H
		5742.04	40.35	-13.65	54	32.6	31.44	12.59	36.28	297	130	A	H
		5423.92	49	-25	74	42.28	30.91	12.21	36.4	235	76	P	V
		5465.04	39.67	-14.33	54	32.91	30.86	12.27	36.37	235	76	A	V
	*	5672	103.98	-	-	96.8	30.95	12.52	36.29	235	76	P	V
	*	5672	96.89	-	-	89.71	30.95	12.52	36.29	235	76	A	V
		5729	51.88	-22.12	74	44.27	31.32	12.57	36.28	235	76	P	V
		5725.08	42.36	-11.64	54	34.75	31.32	12.57	36.28	235	76	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 HT40 CH 102 5510MHz		11020	54.1	-19.9	74	65.78	38.08	15.93	65.69	294	68	P	H
		11020	49.84	-4.16	54	61.52	38.08	15.93	65.69	294	68	A	H
		11020	47.6	-26.4	74	59.28	38.08	15.93	65.69	200	0	P	V
802.11n HT40 CH 110 5550MHz		11100	53.77	-20.23	74	65.27	38.17	15.96	65.63	105	43	P	H
		11100	49.03	-4.97	54	60.53	38.17	15.96	65.63	105	43	A	H
		11100	47.8	-26.2	74	59.3	38.17	15.96	65.63	100	0	P	V
802.11n HT40 CH 134 5670MHz		11340	54.52	-19.48	74	65.49	38.42	16.07	65.46	119	37	P	H
		11340	50.07	-3.93	54	61.04	38.42	16.07	65.46	119	37	A	H
		11340	49.14	-24.86	74	60.11	38.42	16.07	65.46	300	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)
802.11ac VHT80 CH 106 5530MHz		5463.44	52.51	-21.49	74	45.75	30.86	12.27	36.37	102	299	P	H
		5469.99	44.38	-9.62	54	37.62	30.86	12.27	36.37	102	299	A	H
	*	5510	92.34	-	-	85.55	30.83	12.32	36.36	102	299	P	H
	*	5510	85.18	-	-	78.39	30.83	12.32	36.36	102	299	A	H
		5736.76	49.76	-24.24	74	42.01	31.44	12.59	36.28	102	299	P	H
		5752.68	41.99	-12.01	54	34.11	31.56	12.6	36.28	102	299	A	H
		5441.36	58.63	-15.37	74	51.9	30.89	12.23	36.39	302	67	P	V
		5469.99	49.93	-4.07	54	43.17	30.86	12.27	36.37	302	67	A	V
	*	5534	100.13	-	-	93.31	30.8	12.36	36.34	302	67	P	V
	*	5534	92.55	-	-	85.73	30.8	12.36	36.34	302	67	A	V
		5734.28	49.79	-24.21	74	42.18	31.32	12.57	36.28	302	67	P	V
		5748.52	42.26	-11.74	54	34.51	31.44	12.59	36.28	302	67	A	V
802.11ac VHT80 CH 122 5610MHz		5465.52	48.6	-25.4	74	41.84	30.86	12.27	36.37	100	251	P	H
		5421.2	41.23	-12.77	54	34.51	30.91	12.21	36.4	100	251	A	H
	*	5590	91.42	-	-	84.57	30.75	12.42	36.32	100	251	P	H
	*	5590	85.13	-	-	78.28	30.75	12.42	36.32	100	251	A	H
		5754.84	50.53	-23.47	74	42.65	31.56	12.6	36.28	100	251	P	H
		5742.84	41.98	-12.02	54	34.23	31.44	12.59	36.28	100	251	A	H
		5399.6	49.14	-24.86	74	42.43	30.93	12.19	36.41	304	68	P	V
		5466.64	41.35	-12.65	54	34.59	30.86	12.27	36.37	304	68	A	V
	*	5590	99.44	-	-	92.59	30.75	12.42	36.32	304	68	P	V
	*	5590	92.34	-	-	85.49	30.75	12.42	36.32	304	68	A	V
		5752.2	50.43	-23.57	74	42.55	31.56	12.6	36.28	304	68	P	V
		5764.36	42.45	-11.55	54	34.57	31.56	12.6	36.28	304	68	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 VHT80 CH 106 5530MHz		11060	50.68	-23.32	74	62.26	38.13	15.95	65.66	300	360	P	H
		11060	47.92	-26.08	74	59.5	38.13	15.95	65.66	200	360	P	V
802.11ac VHT80 CH 122 5610MHz		11220	53.37	-20.63	74	64.61	38.29	16.02	65.55	100	36	P	H
		11220	49.61	-4.39	54	60.85	38.29	16.02	65.55	100	36	A	H
		11220	48.11	-25.89	74	59.35	38.29	16.02	65.55	300	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

WIFI 802.11n HT20 (LF @ 3m)

WIFI 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	26.92	-13.08	40	30.57	26.8	0.65	31.1	100	172	P	H
		186.17	24.55	-18.95	43.5	36.46	17.14	2	31.05	-	-	P	H
		238.55	23.13	-22.87	46	34.88	17.15	2.28	31.18	-	-	P	H
		556.71	26.27	-19.73	46	29.42	24.81	3.54	31.5	-	-	P	H
		710.94	29.55	-16.45	46	28.68	27.7	4.05	30.88	-	-	P	H
		925.31	31.1	-14.9	46	28.68	29	4.62	31.2	-	-	P	H
		32.91	31.85	-8.15	40	35.98	26.14	0.77	31.04	100	25	P	V
		94.99	25.55	-17.95	43.5	36.68	18.3	1.37	30.8	-	-	P	V
		156.1	24.37	-19.13	43.5	36.01	17.44	1.84	30.92	-	-	P	V
		323.91	27.69	-18.31	46	35.7	20.61	2.88	31.5	-	-	P	V
		478.14	26.92	-19.08	46	31	24.23	3.29	31.6	-	-	P	V
		760.41	30.17	-15.83	46	29.85	26.9	4.2	30.78	-	-	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)

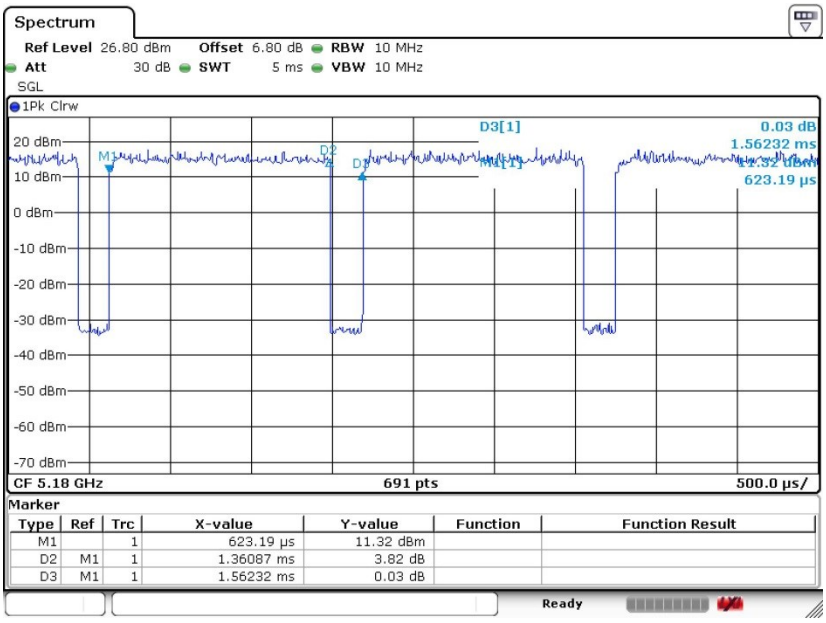
= -10.46(dB)

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

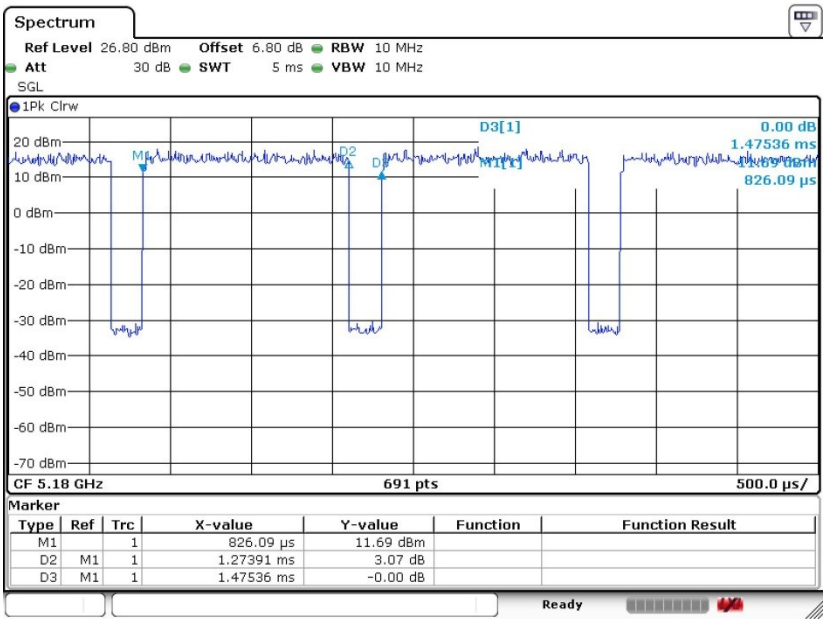
Appendix C. Duty Cycle Plots

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	87.11	1.361	0.735	1kHz
802.11n HT20	86.35	1.274	0.785	1kHz
802.11n HT40	86.37	1.230	0.813	1kHz
802.11ac VHT80	55.16	0.248	4.035	10kHz

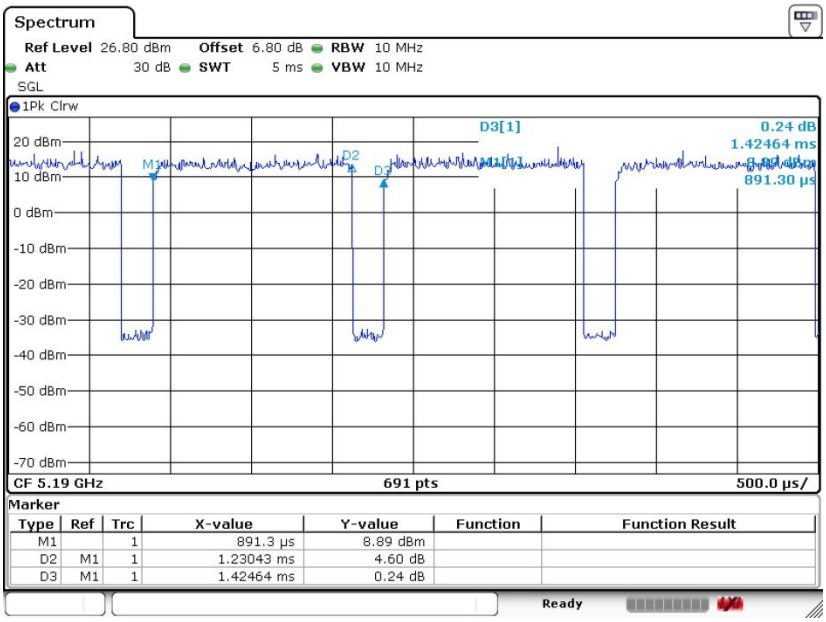
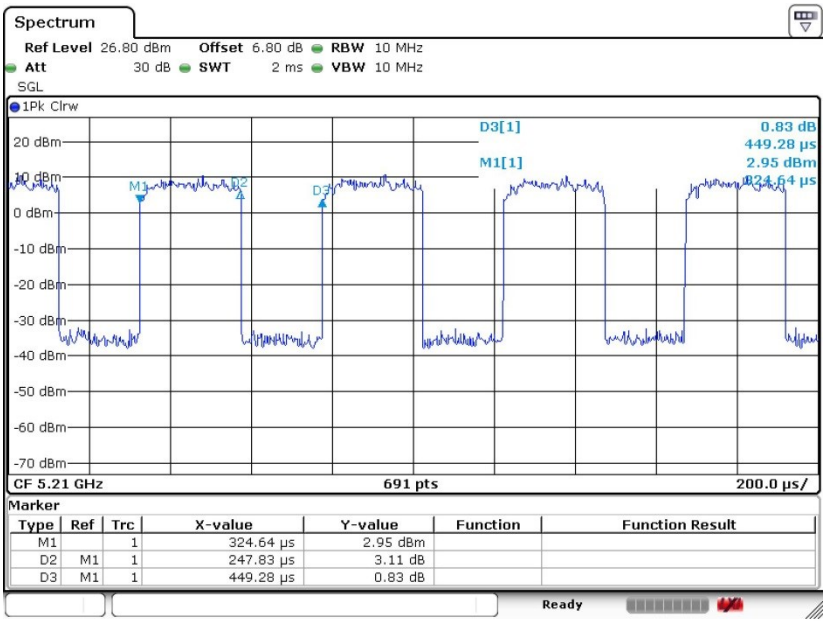
802.11a



802.11n HT20



802.11n HT40



802.11ac VTH80