



# FCC RF Test Report

**APPLICANT** : Samsung Electronics Co., Ltd.  
**EQUIPMENT** : Tablet PC  
**BRAND NAME** : SAMSUNG  
**MODEL NAME** : SM-T555C  
**FCC ID** : A3LSMT555C  
**STANDARD** : FCC Part 15 Subpart E §15.407  
**CLASSIFICATION** : (NII) Unlicensed National Information Infrastructure

The product was received on Mar. 19, 2015 and testing was completed on Apr. 16, 2015. We, SPORTON INTERNATIONAL (SHENZHEN) INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL (SHENZHEN) INC., the test report shall not be reproduced except in full.

Reviewed by: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager



**SPORTON INTERNATIONAL (SHENZHEN) INC.**

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## TABLE OF CONTENTS

<b>SUMMARY OF TEST RESULT .....</b>	<b>4</b>
<b>1 GENERAL DESCRIPTION .....</b>	<b>5</b>
1.1 Applicant .....	5
1.2 Manufacturer .....	5
1.3 Feature of Equipment Under Test .....	5
1.4 Product Specification of Equipment Under Test .....	6
1.5 Modification of EUT .....	7
1.6 Testing Location .....	7
1.7 Applicable Standards .....	7
<b>2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST .....</b>	<b>8</b>
2.1 Carrier Frequency Channel .....	9
2.2 Pre-Scanned RF Power .....	10
2.3 Test Mode .....	11
2.4 Connection Diagram of Test System .....	13
2.5 Support Unit used in test configuration and system .....	14
2.6 EUT Operation Test Setup .....	14
2.7 Measurement Results Explanation Example .....	15
<b>3 TEST RESULT .....</b>	<b>16</b>
3.1 26dB & 99% Occupied Bandwidth Measurement .....	16
3.2 Maximum Conducted Output Power Measurement .....	18
3.3 Power Spectral Density Measurement .....	19
3.4 Unwanted Radiated Emission Measurement .....	22
3.5 AC Conducted Emission Measurement .....	27
3.6 Frequency Stability Measurement .....	31
3.7 Automatically Discontinue Transmission .....	32
3.8 Antenna Requirements .....	33
<b>4 LIST OF MEASURING EQUIPMENTS .....</b>	<b>34</b>
<b>5 UNCERTAINTY OF EVALUATION .....</b>	<b>35</b>
<b>APPENDIX A. CONDUCTED TEST RESULTS</b>	
<b>APPENDIX B. RADIATED TEST RESULTS</b>	





### 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	≤ -17, -27 dBm (depend on band)&15.209(a)	Pass	Under limit 2.70 dB at 5350.990 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 15.36 dB at 0.440 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

**Samsung Electronics Co., Ltd.**

No.9 WeiWu Rd., Micro Electronic Industrial Park, Jingang Highway, Xiqing District, Tianjin, China

## 1.2 Manufacturer

**Samsung Electronics Co., Ltd.**

No.9 WeiWu Rd., Micro Electronic Industrial Park, Jingang Highway, Xiqing District, Tianjin, China

## 1.3 Feature of Equipment Under Test

Product Feature	
Equipment	Tablet PC
Brand Name	SAMSUNG
Model Name	SM-T555C
FCC ID	A3LSMT555C
GSM Operating Band(s)	GSM900/1800 (non-US bands) GSM1900/850MHz (US bands)
GPRS/EGPRS Multi-slot Class	GPRS Class 33, EGPRS Class 33
WCDMA Operating Band(s)	FDD Band I/VIII (non-US bands) FDD Band II/V (US bands)
LTE Operating Band(s)	FDD Band 1/3/8/28 (non-US bands) TDD Band 41 (US band)
Wi-Fi Specification	2.4GHz 802.11b/g/n HT20 5GHz 802.11a/n HT20/HT40
ANT+ Specification	2.4GHz
Bluetooth Version	Bluetooth v3.0 + EDR / Bluetooth v4.0 LE
IMEI Code	Conducted: 354377050002652 Radiated: 354377050003239 Conduction: 354377050002652
HW Version	REV1.0
SW Version	T555C.001
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

Product Specification subjective to this standard	
<b>Tx/Rx Frequency Range</b>	5180 MHz ~ 5240 MHz 5260 MHz ~ 5320 MHz
<b>Maximum Output Power to Antenna</b>	<b>&lt;5180 MHz ~ 5240 MHz&gt;</b> 802.11a : 9.95 dBm / 0.0099 W 802.11n HT20 : 10.05 dBm / 0.0101 W 802.11n HT40 : 10.52 dBm / 0.0113 W <b>&lt;5260 MHz ~ 5320 MHz&gt;</b> 802.11a : 8.51 dBm / 0.0071 W 802.11n HT20 : 8.59 dBm / 0.0072 W 802.11n HT40 : 9.11 dBm / 0.0081 W
<b>Antenna Type</b>	FPCB Antenna
<b>Antenna Gain</b>	<b>&lt;5180 MHz ~ 5240 MHz&gt;</b> : -4.09 dBi <b>&lt;5260 MHz ~ 5320 MHz&gt;</b> : -4.09 dBi
<b>Type of Modulation</b>	OFDM (BPSK / QPSK / 16QAM / 64QAM)



### 1.5 Modification of EUT

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

### 1.6 Testing Location

<b>Test Site</b>	SPORTON INTERNATIONAL (SHENZHEN) INC.	
<b>Test Site Location</b>	1F & 2F, Building A, Morning Business Center, No. 4003 ShiGu Rd., Xili Town, Nanshan District, Shenzhen, Guangdong, P. R. China TEL: +86-755-8637-9589 FAX: +86-755-8637-9595	
<b>Test Site No.</b>	<b>Sporton Site No.</b>	
	TH01-SZ	CO01-SZ

<b>Test Site</b>	SPORTON INTERNATIONAL (SHENZHEN) INC.	
<b>Test Site Location</b>	No. 3 Building, the third floor of south, Shahe River west, Fengzeyuan warehouse, Nanshan District, Shenzhen, Guangdong, P. R. China TEL: +86-755- 3320-2398	
<b>Test Site No.</b>	<b>Sporton Site No.</b>	<b>FCC Registration No.</b>
	03CH01-SZ	831040

**Note:** The test site complies with ANSI C63.4 2009 requirement.

### 1.7 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 v01
- ♦ 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. FCC permits the use of the 1.5 meter table above 1 GHz as an alternative in C63.10-2013 through inquiry tracking number 961829.
3. 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 (X plane) were recorded in this report.

The final configuration from all the combinations and the worst-case data rates were investigated by measuring the maximum power across all the data rates and modulation modes under section 2.2.

Based on the worst configuration found above, the RF power setting is set individually to meet FCC compliance limit for the final conducted and radiated tests shown in section 2.3.



## 2.1 Carrier Frequency Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5150-5250 MHz Band 1 (U-NII-1)	36	5180	44	5220
	<b>38</b>	<b>5190</b>	<b>46</b>	<b>5230</b>
	40	5200	48	5240

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5250-5350 MHz Band 2 (U-NII-2A)	52	5260	60	5300
	<b>54</b>	<b>5270</b>	<b>62</b>	<b>5310</b>
	56	5280	64	5320

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



## 2.2 Pre-Scanned RF Power

Preliminary tests were performed in different data rate and data rate associated with the highest power were chosen for full test in the following tables. Final Output Power equals to Measured Output Power adds the duty factor.

5GHz 802.11a RF Output Power (dBm)										
Power vs. Channel			Power vs. MCS Index							
Channel	Frequency (MHz)	MCS Index	Channel	9M bps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
		6Mbps								
CH 36	5180	9.66	CH 48	9.73	9.67	9.66	9.66	9.74	9.80	9.78
CH 44	5220	9.78								
CH 48	5240	9.95								
CH 52	5260	8.00	CH 64	8.39	8.34	8.30	8.27	8.26	8.47	8.44
CH 60	5300	8.49								
CH 64	5320	8.51								

5GHz 802.11n HT20 RF Output Power (dBm)										
Power vs. Channel			Power vs. MCS Index							
Channel	Frequency (MHz)	MCS Index	Channel	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
		MCS0								
CH 36	5180	9.75	CH 48	9.96	10.01	10.01	9.95	9.94	10.03	9.94
CH 44	5220	9.88								
CH 48	5240	10.05								
CH 52	5260	8.09	CH 64	8.51	8.55	8.53	8.52	8.50	8.56	8.53
CH 60	5300	8.57								
CH 64	5320	8.59								

5GHz 802.11n HT40 RF Output Power (dBm)										
Power vs. Channel			Power vs. MCS Index							
Channel	Frequency (MHz)	MCS Index	Channel	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
		MCS0								
CH 38	5190	10.23	CH 46	10.36	10.40	10.42	10.45	10.42	10.49	10.34
CH 46	5230	10.52								
CH 54	5270	8.70	CH 62	9.06	9.02	9.05	9.06	9.01	9.04	9.03
CH 62	5310	9.11								



### 2.3 Test Mode

Final test mode of conducted test items and radiated spurious emissions are considering the modulation and worse data rates from the power table described in section 2.2.

Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0

<b>AC Conducted Emission</b>	Mode 1 : GSM1900 Idle + Bluetooth Link + WLAN (5GHz) Link + USB Cable (Charging from Adapter) + Earphone
<b>Remark:</b> For Radiated TCs, the tests were performed with adapter, earphone and USB cable.	



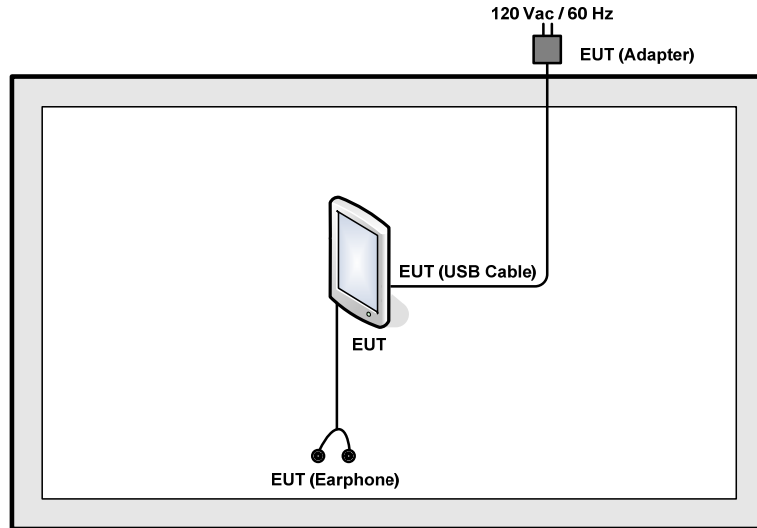
Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz
		802.11a	802.11a
L	Low	36	52
M	Middle	44	60
H	High	48	64

Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz
		802.11n HT20	802.11n HT20
L	Low	36	52
M	Middle	44	60
H	High	48	64

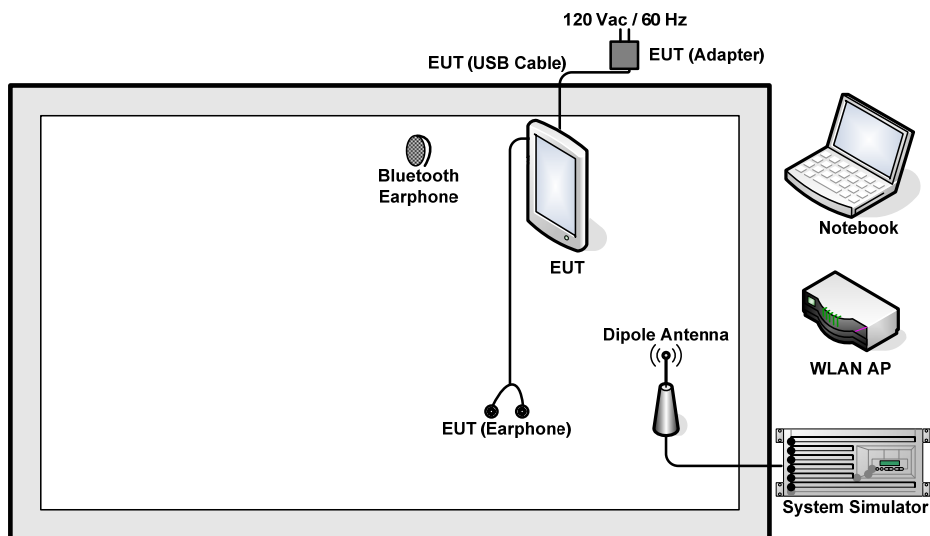
Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz
		802.11n HT40	802.11n HT40
L	Low	38	54
M	Middle	-	-
H	High	46	62

## 2.4 Connection Diagram of Test System

### <WLAN Tx Mode>



### <AC Conducted Emission Mode>





## 2.5 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	D-Link	DIR-815	KA2DIR815A1	N/A	Unshielded, 1.8 m
2.	Notebook	Lenovo	E540	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
3.	Bluetooth Earphone	Nokia	BH-108	PYAHS-107W	N/A	N/A

## 2.6 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.



## 2.7 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 9.5 dB and 10dB attenuator.

$$\begin{aligned} \text{Offset (dB)} &= \text{RF cable loss (dB)} + \text{attenuator factor (dB)} \\ &= 9.5 + 10 = 19.5 \text{ (dB)} \end{aligned}$$

### 3 Test Result

#### 3.1 26dB & 99% Occupied Bandwidth Measurement

##### 3.1.1 Description of 26dB & 99% Occupied Bandwidth

This section is for reporting purpose only.

There is no restriction limits for bandwidth.

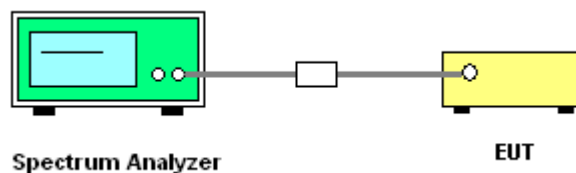
##### 3.1.2 Measuring Instruments

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

##### 3.1.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01.  
Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB down from the peak of the emission.  
Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
7. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1MHz and set the Video bandwidth (VBW)  $\geq 3 * RBW$ .
8. Measure and record the results in the test report.

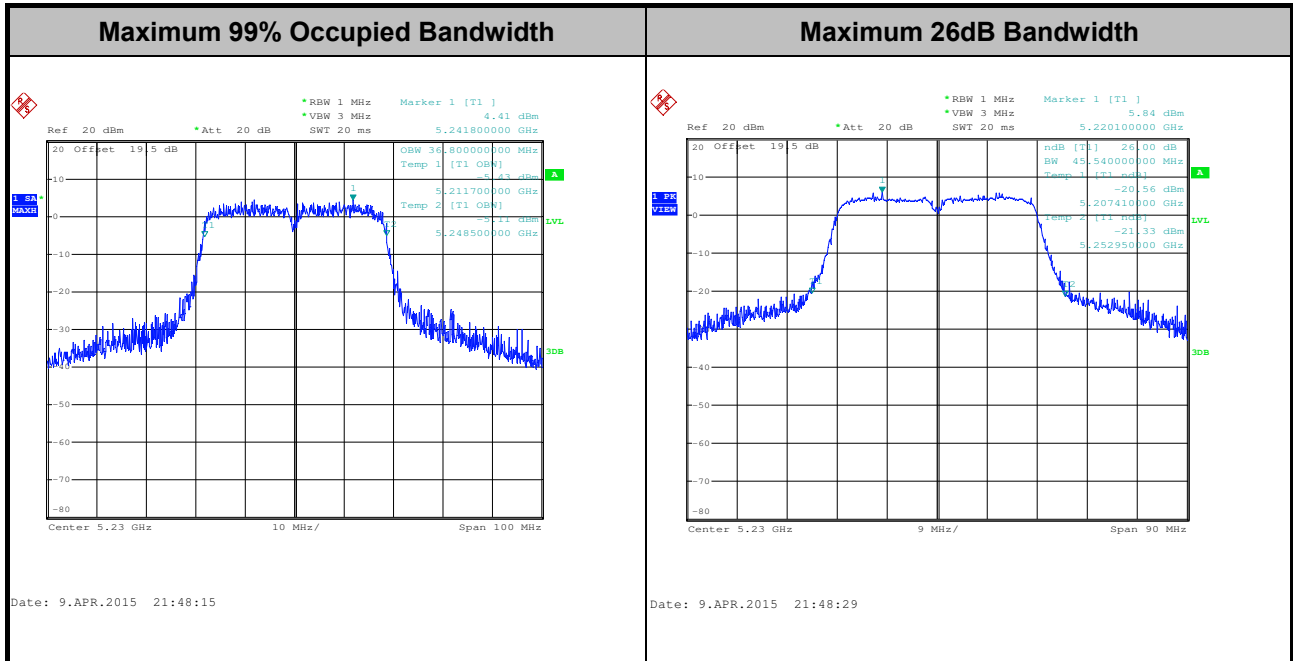
##### 3.1.4 Test Setup





### 3.1.5 Test Result of 26dB & 99% Occupied Bandwidth Plots

Please refer to Appendix A.



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

## 3.2 Maximum Conducted Output Power Measurement

### 3.2.1 Limit of Maximum Conducted Output Power

#### <FCC 14-30 CFR 15.407>

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

For the 5.25–5.35 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or  $11 \text{ dBm} + 10 \log B$ , 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.

### 3.2.2 Measuring Instruments

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

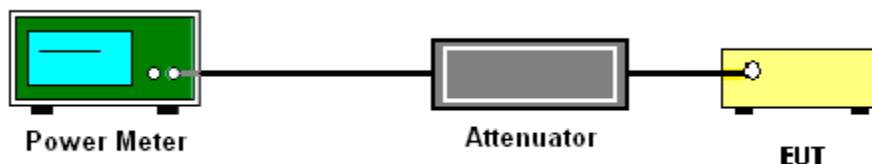
### 3.2.3 Test Procedures

The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01.

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 5.25–5.35 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

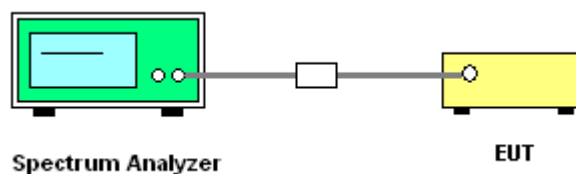
The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01.  
Section F) Maximum power spectral density.

#### # 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 v01.
  - Measure the duty cycle.
  - Set span to encompass the entire emission bandwidth (EBW) of the signal.
  - Set RBW = 1 MHz.
  - Set VBW  $\geq$  3 MHz.
  - Number of points in sweep  $\geq$  2 Span / RBW.
  - Sweep time = auto.
  - Detector = RMS
  - Trace average at least 100 traces in power averaging mode.
  - Add  $10 \log(1/x)$ , where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add  $10 \log(1/0.25) = 6$  dB if the duty cycle is 25 percent.
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.

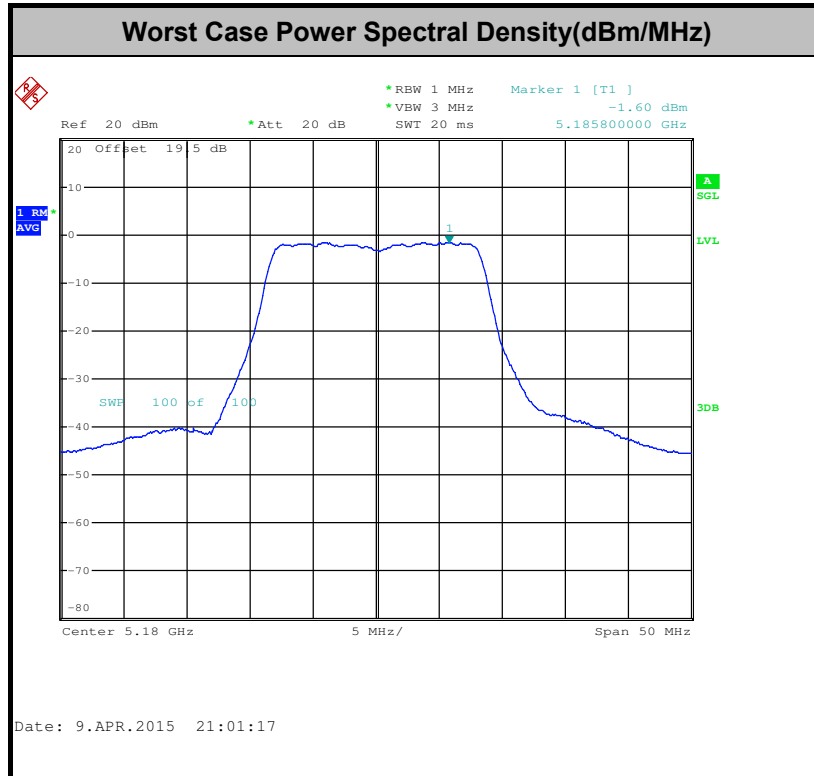
### 3.3.4 Test Setup





### 3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.



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



### 3.4 Unwanted Radiated Emission Measurement

This section as specified in FCC Part 15.407(b) is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement. The unwanted emissions shall comply with 15.407(b)(1) to (6), and restricted bands per FCC Part15.205.

#### 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.

(2) Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 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.

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



EIRP (dBm)	Field Strength at 3m (dBμV/m)
-17	78.3
- 27	68.3

(3) KDB789033 v01 G)2)c) As specified in 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in 15.407(b)(4)). However, an out-of-band emission that complies with both the average and peak limits of 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz peak emission limit.

### 3.4.2 Measuring Instruments

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



3.4.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01. 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

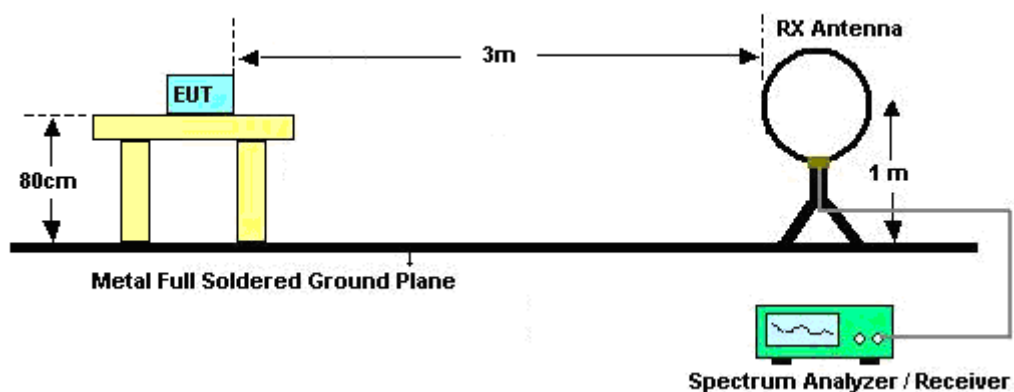
- RBW = 1 MHz
- VBW = 10 Hz, when duty cycle is no less than 98 percent.
- $VBW \geq 1/T$ , when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

Band	Duty Cycle (%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	93.33	1.40	0.71	1kHz
802.11n HT20	92.97	1.30	0.77	1kHz
802.11n HT40	86.99	0.64	1.56	3kHz

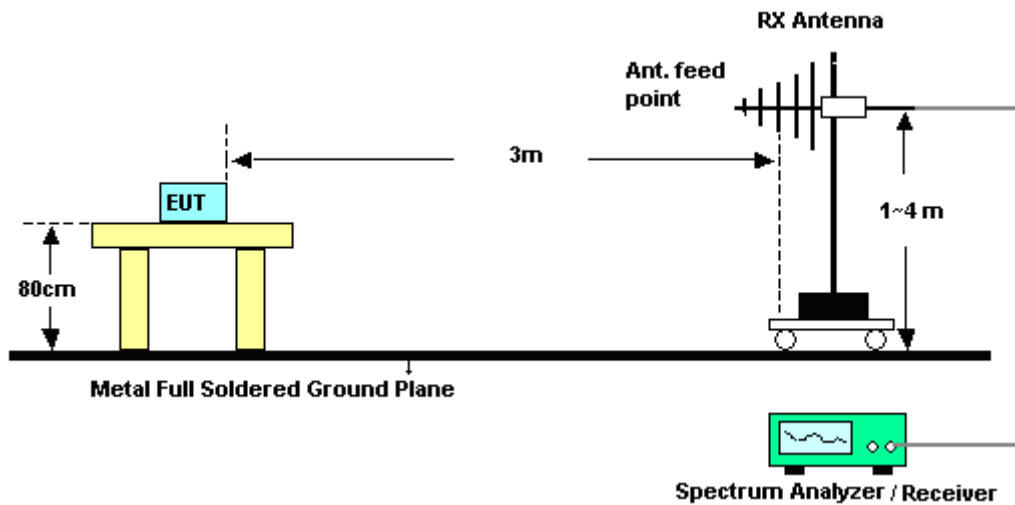
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband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

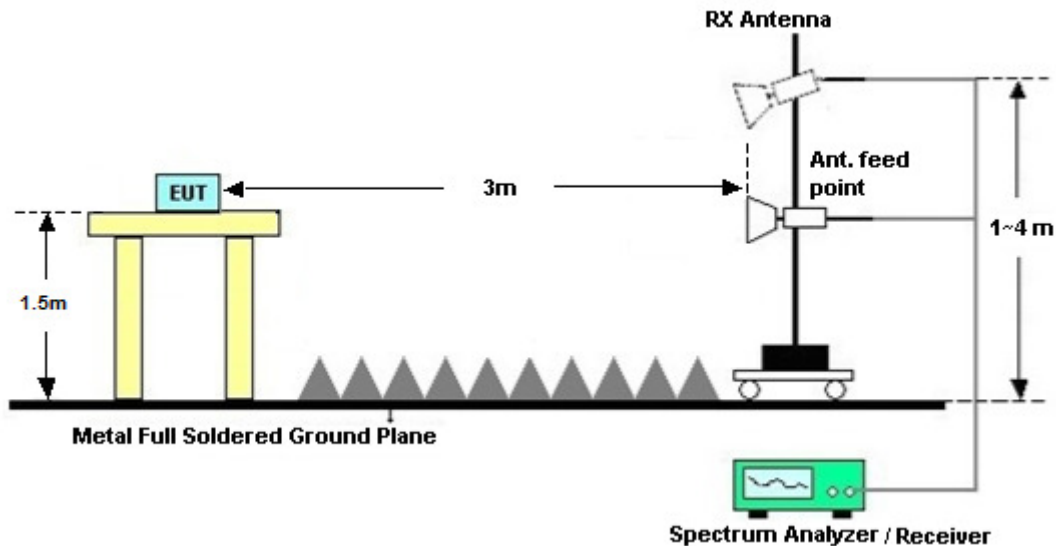
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

### 3.4.6 Test Result of Radiated Band Edges

Please refer to Appendix B.

### 3.4.7 Test Result of Unwanted Radiated Emission (30 MHz ~ 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 (dB $\mu$ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

\*Decreases with the logarithm of the frequency.

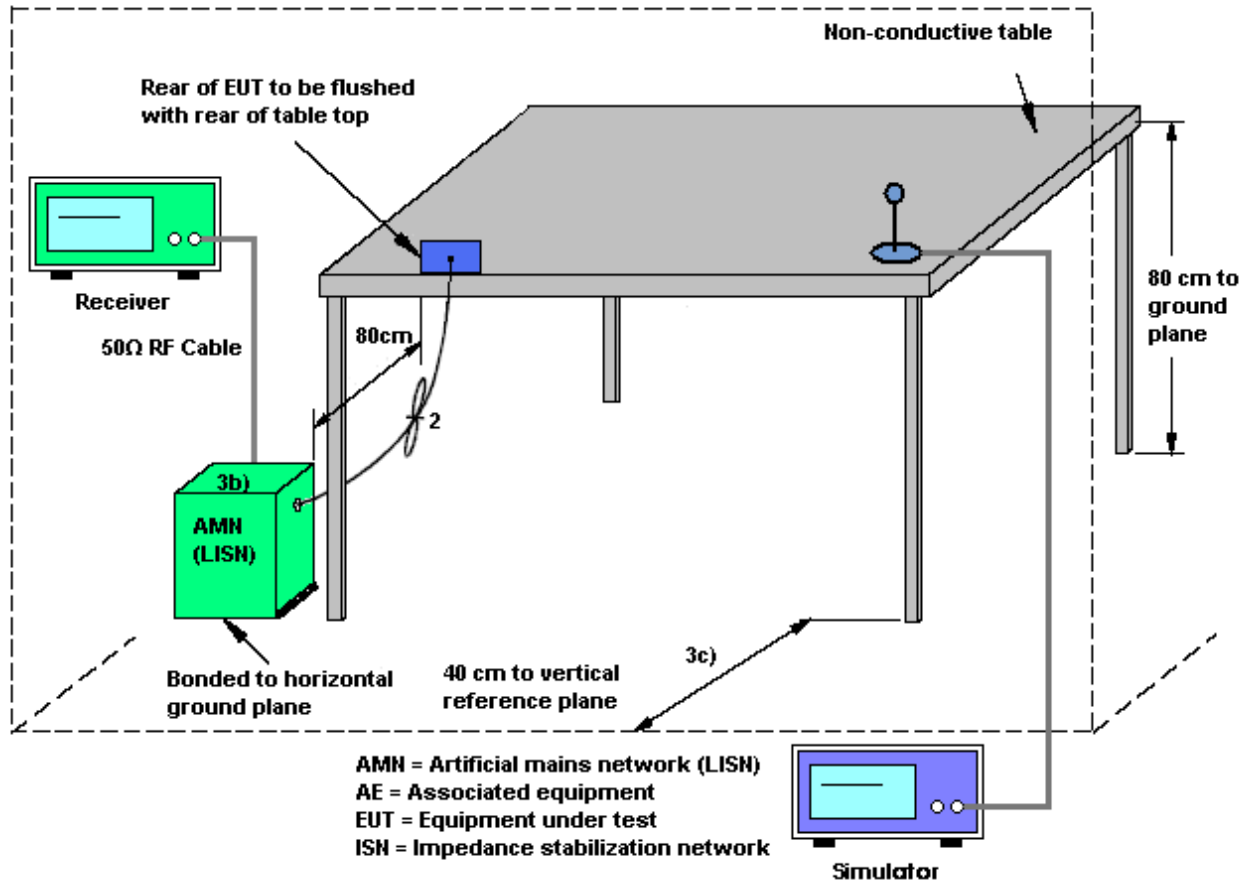
#### 3.5.2 Measuring Instruments

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

#### 3.5.3 Test Procedures

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

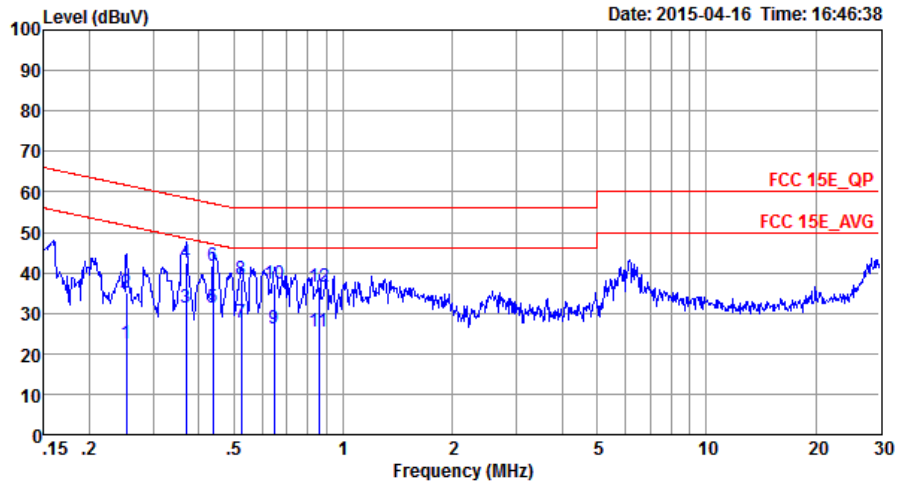
### 3.5.4 Test Setup





3.5.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	21~23°C
Test Engineer :	Jack Tian	Relative Humidity :	41~43%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM1900 Idle + Bluetooth Link + WLAN (5GHz) Link + USB Cable (Charging from Adapter) + Earphone		

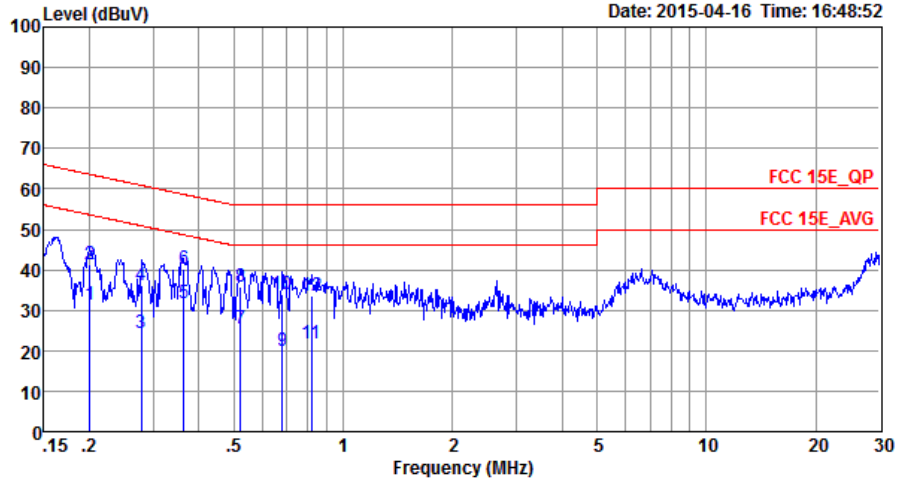


Site : C001-SZ  
 Condition: FCC 15E\_QP LISN\_L\_20140304 LINE

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.25	22.48	-29.16	51.64	12.00	0.24	10.24	Average
2	0.25	35.18	-26.46	61.64	24.70	0.24	10.24	QP
3	0.37	31.35	-17.17	48.52	20.90	0.27	10.18	Average
4	0.37	42.35	-16.17	58.52	31.90	0.27	10.18	QP
5	0.44	31.35	-15.76	47.11	20.90	0.29	10.16	Average
6 *	0.44	41.75	-15.36	57.11	31.30	0.29	10.16	QP
7	0.52	27.74	-18.26	46.00	17.31	0.28	10.15	Average
8	0.52	38.34	-17.66	56.00	27.91	0.28	10.15	QP
9	0.64	26.36	-19.64	46.00	16.00	0.21	10.15	Average
10	0.64	37.26	-18.74	56.00	26.90	0.21	10.15	QP
11	0.86	25.38	-20.62	46.00	15.00	0.23	10.15	Average
12	0.86	36.58	-19.42	56.00	26.20	0.23	10.15	QP



Test Mode :	Mode 1	Temperature :	21~23°C
Test Engineer :	Jack Tian	Relative Humidity :	41~43%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GSM1900 Idle + Bluetooth Link + WLAN (5GHz) Link + USB Cable (Charging from Adapter) + Earphone		



Site : C001-SZ  
 Condition: FCC 15E\_QP LISN\_N\_20140304 NEUTRAL

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.20	31.31	-22.27	53.58	20.70	0.32	10.29	Average
2	0.20	41.41	-22.17	63.58	30.80	0.32	10.29	QP
3	0.28	24.27	-26.63	50.90	13.70	0.35	10.22	Average
4	0.28	36.27	-24.63	60.90	25.70	0.35	10.22	QP
5 *	0.36	31.86	-16.79	48.65	21.30	0.38	10.18	Average
6	0.36	40.36	-18.29	58.65	29.80	0.38	10.18	QP
7	0.52	25.35	-20.65	46.00	14.81	0.39	10.15	Average
8	0.52	35.95	-20.05	56.00	25.41	0.39	10.15	QP
9	0.68	20.02	-25.98	46.00	9.60	0.27	10.15	Average
10	0.68	33.82	-22.18	56.00	23.40	0.27	10.15	QP
11	0.82	21.93	-24.07	46.00	11.50	0.28	10.15	Average
12	0.82	33.73	-22.27	56.00	23.30	0.28	10.15	QP

## 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.

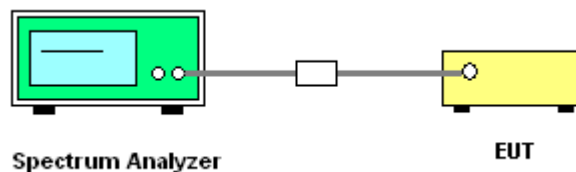
### 3.6.2 Measuring Instruments

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**

According to FCC 47 CFR Section 15.407(a)(1)(2) ,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 output power limit.



## 4 List of Measuring Equipments

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP30	101400	9kHz~30GHz	Jan. 28, 2015	Apr. 09, 2015	Jan. 27, 2016	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	10Hz~40GHz	Jan. 28, 2015	Apr. 09, 2015	Jan. 27, 2016	Conducted (TH01-SZ)
Power Sensor	Anritsu	MA2411B	1207253	0.3GHz~40GHz	Jan. 28, 2015	Apr. 09, 2015	Jan. 27, 2016	Conducted (TH01-SZ)
Thermal Chamber	Hongzhangroup	LP-150U	HD20120425	-40℃~150℃	Jan. 28, 2015	Apr. 09, 2015	Jan. 27, 2016	Conducted (TH01-SZ)
DC Power Supply	GWINSTEK	GPS-3030D	EM882636	DC 10~30V	May 08, 2014	Apr. 09, 2015	May 07, 2015	Conducted (TH01-SZ)
ESCIO TEST Receiver	R&S	ESCI7	100768	9kHz~3GHz	May 04, 2014	Apr. 16, 2015	May 03, 2015	Radiation (03CH01-SZ)
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	May 08, 2014	Apr. 16, 2015	May 07, 2015	Radiation (03CH01-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	May 09, 2014	Apr. 16, 2015	May 08, 2015	Radiation (03CH01-SZ)
Bilog Antenna	TESEQ	CBL 6112D	37877	30MHz~2GHz	Oct. 15, 2014	Apr. 16, 2015	Oct. 14, 2015	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS Lindgren	3117	00119436	1GHz~18GHz	Oct. 15, 2014	Apr. 16, 2015	Oct. 14, 2015	Radiation (03CH01-SZ)
Double Ridged Horn Antenna	COM-POWER	AH-840	101073	18GHz~40GHz	Jun. 09, 2014	Apr. 16, 2015	Jun. 08, 2015	Radiation (03CH01-SZ)
Amplifier	ADVANTEST	BB525C	E9007003	9kHz~3000MHz GAIN 30db	Jan. 28, 2015	Apr. 16, 2015	Jan. 27, 2016	Radiation (03CH01-SZ)
Amplifier	Chengyi	AMF-7D-001 01800-30-10 P-R	1707137	1GHz~18GHz	May 08, 2014	Apr. 16, 2015	May 07, 2015	Radiation (03CH01-SZ)
Amplifier	Yiai	AV3860B	04030	2GHz~26.5GHz	May 08, 2014	Apr. 16, 2015	May 07, 2015	Radiation (03CH01-SZ)
Amplifier	MITEQ	TTA1840-35- HG	1871923	18GHz~40GHz	Jul. 08, 2014	Apr. 16, 2015	Jul. 07, 2015	Radiation (03CH01-SZ)
AC Source	Chroma	61601ACSO URCE	6160100024 70	100Vac~240Vac	NCR	Apr. 16, 2015	NCR	Radiation (03CH01-SZ)
Turn Table	EM Electronics	EM 1000	N/A	0~360 degree	NCR	Apr. 16, 2015	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM Electronics	EM 1000	N/A	1 m~4 m	NCR	Apr. 16, 2015	NCR	Radiation (03CH01-SZ)
EMI TEST Receiver	R&S	ESCI7	100768	9kHz~3GHz	May 04, 2014	Apr. 16, 2015	May 03, 2015	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103912	9kHz~30MHz	Feb. 02, 2015	Apr. 16, 2015	Feb. 01, 2016	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Feb. 02, 2015	Apr. 16, 2015	Feb. 01, 2016	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	6160200008 91	100Vac~250Vac	Sep. 29, 2014	Apr. 16, 2015	Sep. 28, 2015	Conduction (CO01-SZ)
System Simulator	R&S	CMU 200	116456	Full-Band	Aug. 11, 2014	Apr. 16, 2015	Aug. 10, 2015	Conduction (CO01-SZ)



## 5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	2.3 dB
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### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	3.9 dB
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Test Engineer:	Mygai Mo	Temperature:	21~25	°C
Test Date:	2015/4/9	Relative Humidity:	51~54	%

**TEST RESULTS DATA**  
**26dB and 99% OBW**

Band I										
Mod.	Data Rate	Ntx	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)		
11a	6Mbps	1	36	5180	18.15	23.75	-	22.59		
11a	6Mbps	1	44	5220	18.20	24.15	-	22.60		
11a	6Mbps	1	48	5240	18.30	23.60	-	22.62		
HT20	MCS0	1	36	5180	18.95	24.10	-	22.78		
HT20	MCS0	1	44	5220	19.05	24.35	-	22.80		
HT20	MCS0	1	48	5240	19.05	24.50	-	22.80		
HT40	MCS0	1	38	5190	36.50	45.18	-	23.01		
HT40	MCS0	1	46	5230	36.80	45.54	-	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	0.30	9.66	24.00	-4.09		Pass
11a	6Mbps	1	44	5220	0.30	9.78	24.00	-4.09		Pass
11a	6Mbps	1	48	5240	0.30	9.95	24.00	-4.09		Pass
HT20	MCS0	1	36	5180	0.32	9.75	24.00	-4.09		Pass
HT20	MCS0	1	44	5220	0.32	9.88	24.00	-4.09		Pass
HT20	MCS0	1	48	5240	0.32	10.05	24.00	-4.09		Pass
HT40	MCS0	1	38	5190	0.61	10.23	24.00	-4.09		Pass
HT40	MCS0	1	46	5230	0.61	10.52	24.00	-4.09		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	0.30	-1.30	11.00	-4.09		Pass
11a	6Mbps	1	44	5220	0.30	-1.57	11.00	-4.09		Pass
11a	6Mbps	1	48	5240	0.30	-1.37	11.00	-4.09		Pass
HT20	MCS0	1	36	5180	0.32	-1.64	11.00	-4.09		Pass
HT20	MCS0	1	44	5220	0.32	-1.73	11.00	-4.09		Pass
HT20	MCS0	1	48	5240	0.32	-1.68	11.00	-4.09		Pass
HT40	MCS0	1	38	5190	0.61	-3.92	11.00	-4.09		Pass
HT40	MCS0	1	46	5230	0.61	-3.78	11.00	-4.09		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	6Mbps	1	52	5260	18.35	23.95	23.64	29.64	23.98	
11a	6Mbps	1	60	5300	18.15	23.8	23.59	29.59	23.98	
11a	6Mbps	1	64	5320	18.4	23.9	23.65	29.65	23.98	
HT20	MCS0	1	52	5260	19.1	24.1	23.81	29.81	23.98	
HT20	MCS0	1	60	5300	19.1	24.2	23.81	29.81	23.98	
HT20	MCS0	1	64	5320	19.1	24.05	23.81	29.81	23.98	
HT40	MCS0	1	54	5270	36.6	45.54	23.98	30.00	23.98	
HT40	MCS0	1	62	5310	36.6	45.54	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)		Pass/Fail
11a	6Mbps	1	52	5260	0.30	8.00	23.98	-4.09		Pass
11a	6Mbps	1	60	5300	0.30	8.49	23.98	-4.09		Pass
11a	6Mbps	1	64	5320	0.30	8.51	23.98	-4.09		Pass
HT20	MCS0	1	52	5260	0.32	8.09	23.98	-4.09		Pass
HT20	MCS0	1	60	5300	0.32	8.57	23.98	-4.09		Pass
HT20	MCS0	1	64	5320	0.32	8.59	23.98	-4.09		Pass
HT40	MCS0	1	54	5270	0.61	8.70	23.98	-4.09		Pass
HT40	MCS0	1	62	5310	0.61	9.11	23.98	-4.09		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	6Mbps	1	52	5260	0.30	-3.52	11.00	-4.09		Pass
11a	6Mbps	1	60	5300	0.30	-3.03	11.00	-4.09		Pass
11a	6Mbps	1	64	5320	0.30	-2.95	11.00	-4.09		Pass
HT20	MCS0	1	52	5260	0.32	-3.69	11.00	-4.09		Pass
HT20	MCS0	1	60	5300	0.32	-3.32	11.00	-4.09		Pass
HT20	MCS0	1	64	5320	0.32	-3.08	11.00	-4.09		Pass
HT40	MCS0	1	54	5270	0.61	-5.85	11.00	-4.09		Pass
HT40	MCS0	1	62	5310	0.61	-5.36	11.00	-4.09		Pass

**TEST RESULTS DATA**  
**Frequency Stability**

Band I										
Mod.	Data Rate	Ntx	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stability (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	36	5180	5180.050	0.050	9.65	20	3.6	
11a	6Mbps	1	36	5180	5180.050	0.050	9.65	20	4.2	
11a	6Mbps	1	36	5180	5180.050	0.050	9.65	20	3.8	
11a	6Mbps	1	36	5180	5180.050	0.050	9.65	-30	3.8	
11a	6Mbps	1	36	5180	5180.050	0.050	9.65	50	3.8	

Band II										
Mod.	Data Rate	Ntx	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stability (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	64	5320	5320.050	0.050	9.40	20	3.6	
11a	6Mbps	1	64	5320	5320.050	0.050	9.40	20	4.2	
11a	6Mbps	1	64	5320	5320.050	0.050	9.40	20	3.8	
11a	6Mbps	1	64	5320	5320.050	0.050	9.40	-30	3.8	
11a	6Mbps	1	64	5320	5320.050	0.050	9.40	50	3.8	



## Appendix B. Radiated test results

### 15E 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		5066	57.44	-16.56	74	37.76	34.58	13.25	28.15	159	58	P	H
		5127.95	46.88	-7.12	54	27.09	34.66	13.42	28.29	159	58	A	H
	*	5180	99.53	-	-	79.69	34.72	13.51	28.39	159	58	P	H
	*	5180	90.81	-	-	70.97	34.72	13.51	28.39	159	58	A	H
		5055.2	56.59	-17.41	74	36.91	34.58	13.25	28.15	183	267	P	V
		5100.8	46.68	-7.32	54	26.95	34.62	13.33	28.22	183	267	A	V
	*	5180	96.37	-	-	76.53	34.72	13.51	28.39	183	267	P	V
	*	5180	86.91	-	-	67.07	34.72	13.51	28.39	183	267	A	V
802.11a CH 44 5220MHz		5145.8	56.82	-17.18	74	37.04	34.68	13.42	28.32	140	48	P	H
		5093.3	46.62	-7.38	54	26.89	34.62	13.33	28.22	140	48	A	H
	*	5220	99.64	-	-	79.7	34.76	13.59	28.41	140	48	P	H
	*	5220	91.42	-	-	71.48	34.76	13.59	28.41	140	48	A	H
		5362.43	56.59	-17.41	74	36.47	34.94	13.54	28.36	140	48	P	H
		5452.85	46.51	-7.49	54	26.37	35.04	13.45	28.35	140	48	A	H
		5093.3	57.61	-16.39	74	37.88	34.62	13.33	28.22	163	275	P	V
		5125.1	46.6	-7.4	54	26.81	34.66	13.42	28.29	163	275	A	V
	*	5220	95.34	-	-	75.4	34.76	13.59	28.41	163	275	P	V
	*	5220	87.09	-	-	67.15	34.76	13.59	28.41	163	275	A	V
		5448.23	57.02	-16.98	74	36.88	35.04	13.45	28.35	163	275	P	V
		5426.45	46.43	-7.57	54	26.29	35	13.49	28.35	163	275	A	V



802.11a CH 48 5240MHz		5121.8	57.55	-16.45	74	37.74	34.64	13.42	28.25	139	56	P	H
		5115.2	46.63	-7.37	54	26.82	34.64	13.42	28.25	139	56	A	H
	*	5240	100.15	-	-	80.1	34.78	13.68	28.41	139	56	P	H
	*	5240	91.87	-	-	71.82	34.78	13.68	28.41	139	56	A	H
		5433.71	57.43	-16.57	74	37.31	35.02	13.45	28.35	139	56	P	H
		5425.13	46.52	-7.48	54	26.38	35	13.49	28.35	139	56	A	H
		5021.6	56.77	-17.23	74	37.16	34.54	13.16	28.09	151	265	P	V
		5143.55	46.51	-7.49	54	26.73	34.68	13.42	28.32	151	265	A	V
	*	5240	94.56	-	-	74.51	34.78	13.68	28.41	151	265	P	V
	*	5240	85.75	-	-	65.7	34.78	13.68	28.41	151	265	A	V
		5364.63	56.8	-17.2	74	36.68	34.94	13.54	28.36	151	265	P	V
		5351.21	46.4	-7.6	54	26.31	34.92	13.54	28.37	151	265	A	V

Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												
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15E band 1 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		( MHz )	( dBμV/m )	( dB )	( dBμV/m )	(dBμV)	( dB/m )	( dB )	( dB )	( cm )	( deg )	(P/A)	(H/V)

802.11a

CH 36

5180MHz



**15E band 1 5150~5250MHz**  
**WIFI 802.11n HT20(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 )
802.11n HT20 CH 36 5180MHz		5149.85	56.88	-17.12	74	37.1	34.68	13.42	28.32	167	240	P	H
		5128.25	46.98	-7.02	54	27.19	34.66	13.42	28.29	167	240	A	H
	*	5180	100.47	-	-	80.63	34.72	13.51	28.39	167	240	P	H
	*	5180	92.31	-	-	72.47	34.72	13.51	28.39	167	240	A	H
		5086.7	57.14	-16.86	74	37.4	34.6	13.33	28.19	164	87	P	V
		5096.6	46.62	-7.38	54	26.89	34.62	13.33	28.22	164	87	A	V
	*	5180	96.27	-	-	76.43	34.72	13.51	28.39	164	87	P	V
	*	5180	86.88	-	-	67.04	34.72	13.51	28.39	164	87	A	V
802.11n HT20 CH 44 5220MHz		5149.1	56.81	-17.19	74	37.03	34.68	13.42	28.32	182	228	P	H
		5141.15	46.58	-7.42	54	26.8	34.68	13.42	28.32	182	228	A	H
	*	5220	100.94	-	-	81	34.76	13.59	28.41	182	228	P	H
	*	5220	92.75	-	-	72.81	34.76	13.59	28.41	182	228	A	H
		5428.1	57.17	-16.83	74	37.07	35	13.45	28.35	182	228	P	H
		5417.43	46.59	-7.41	54	26.45	35	13.49	28.35	182	228	A	H
		5128.1	57.53	-16.47	74	37.74	34.66	13.42	28.29	163	82	P	V
		5092.85	46.48	-7.52	54	26.75	34.62	13.33	28.22	163	82	A	V
	*	5220	96.54	-	-	76.6	34.76	13.59	28.41	163	82	P	V
	*	5220	87.67	-	-	67.73	34.76	13.59	28.41	163	82	A	V
		5395.21	57.52	-16.48	74	37.4	34.98	13.49	28.35	163	82	P	V
		5350.55	46.49	-7.51	54	26.4	34.92	13.54	28.37	163	82	A	V



<b>802.11n</b> <b>HT20</b> <b>CH 48</b> <b>5240MHz</b>		5020.55	56.85	-17.15	74	37.24	34.54	13.16	28.09	166	229	P	H
		5137.4	46.52	-7.48	54	26.73	34.66	13.42	28.29	166	229	A	H
	*	5240	100.07	-	-	80.02	34.78	13.68	28.41	166	229	P	H
	*	5240	91.25	-	-	71.2	34.78	13.68	28.41	166	229	A	H
		5403.68	56.63	-17.37	74	36.51	34.98	13.49	28.35	166	229	P	H
		5457.03	46.51	-7.49	54	26.37	35.04	13.45	28.35	166	229	A	H
		5018.75	57.57	-16.43	74	37.94	34.52	13.16	28.05	163	80	P	V
		5144	46.5	-7.5	54	26.72	34.68	13.42	28.32	163	80	A	V
	*	5240	95.07	-	-	75.02	34.78	13.68	28.41	163	80	P	V
	*	5240	86.25	-	-	66.2	34.78	13.68	28.41	163	80	A	V
		5405.99	56.86	-17.14	74	36.74	34.98	13.49	28.35	163	80	P	V
	5352.64	46.36	-7.64	54	26.27	34.92	13.54	28.37	163	80	A	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**15E band 1 5150~5250MHz  
WIFI 802.11n HT20 (Harmonic @ 3m)**

WIFI Ant.	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	46.83	-27.17	74	16.03	38.39	17.43	25.02	152	260	P	H
		15540	47.29	-26.71	74	9.23	41.29	20.18	23.41	189	238	P	H
		10360	46.63	-27.37	74	15.83	38.39	17.43	25.02	152	260	P	V
		15540	47.73	-26.27	74	9.67	41.29	20.18	23.41	189	238	P	V
802.11n HT20 CH 44 5220MHz		10440	47.18	-26.82	74	16.34	38.45	17.36	24.97	125	230	P	H
		15660	47.03	-26.97	74	8.48	41.24	20.58	23.27	110	225	P	H
		10440	47.29	-26.71	74	16.45	38.45	17.36	24.97	125	230	P	V
		15660	47.63	-26.37	74	9.08	41.24	20.58	23.27	110	225	P	V
802.11n HT20 CH 48 5240MHz		10480	46.74	-27.26	74	15.84	38.49	17.32	24.91	149	289	P	H
		15720	47.02	-26.98	74	8.28	41.21	20.71	23.18	139	291	P	H
		10480	46.59	-27.41	74	15.69	38.49	17.32	24.91	149	289	P	V
		15720	47.36	-26.64	74	8.62	41.21	20.71	23.18	139	291	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**15E band 1 5150~5250MHz  
WIFI 802.11n HT40 (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 )
802.11n HT40 CH 38 5190MHz		5145.2	59.32	-14.68	74	39.54	34.68	13.42	28.32	146	223	P	H
		5149.7	49.9	-4.1	54	30.12	34.68	13.42	28.32	146	223	A	H
	*	5190	99.43	-	-	79.59	34.72	13.51	28.39	146	223	P	H
	*	5190	91.53	-	-	71.69	34.72	13.51	28.39	146	223	A	H
		5388.94	57.17	-16.83	74	37.08	34.96	13.49	28.36	146	223	P	H
		5373.21	47.24	-6.76	54	27.12	34.94	13.54	28.36	146	223	A	H
		5148.95	56.81	-17.19	74	37.03	34.68	13.42	28.32	163	81	P	V
		5146.7	48.32	-5.68	54	28.54	34.68	13.42	28.32	163	81	A	V
	*	5190	94.68	-	-	74.84	34.72	13.51	28.39	163	81	P	V
	*	5190	86.17	-	-	66.33	34.72	13.51	28.39	163	81	A	V
		5457.69	56.75	-17.25	74	36.61	35.04	13.45	28.35	163	81	P	V
		5449.88	47.28	-6.72	54	27.14	35.04	13.45	28.35	163	81	A	V
802.11n HT40 CH 46 5230MHz		5142.2	56.87	-17.13	74	37.09	34.68	13.42	28.32	179	229	P	H
		5140.1	47.49	-6.51	54	27.71	34.68	13.42	28.32	179	229	A	H
	*	5230	99.82	-	-	79.86	34.78	13.59	28.41	179	229	P	H
	*	5230	91.61	-	-	71.65	34.78	13.59	28.41	179	229	A	H
		5409.4	56.78	-17.22	74	36.66	34.98	13.49	28.35	179	229	P	H
		5430.96	47.33	-6.67	54	27.21	35.02	13.45	28.35	179	229	A	H
		5127.65	58.15	-15.85	74	38.36	34.66	13.42	28.29	163	81	P	V
		5141.15	47.36	-6.64	54	27.58	34.68	13.42	28.32	163	81	A	V
	*	5230	94.93	-	-	74.97	34.78	13.59	28.41	163	81	P	V
	*	5230	86.68	-	-	66.72	34.78	13.59	28.41	163	81	A	V
	5427.99	57.35	-16.65	74	37.25	35	13.45	28.35	163	81	P	V	
	5409.07	47.16	-6.84	54	27.04	34.98	13.49	28.35	163	81	A	V	
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**15E band 1 5150~5250MHz  
WIFI 802.11n HT40 (Harmonic @ 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 HT40		10380	45.32	-28.68	74	14.54	38.41	17.39	25.02	150	360	P	H
CH 38		15570	46.66	-27.34	74	8.45	41.27	20.31	23.37	100	360	P	H
5190MHz		10380	47.57	-26.43	74	16.79	38.41	17.39	25.02	150	360	P	V
		15570	46.36	-27.64	74	8.15	41.27	20.31	23.37	100	360	P	V
802.11n HT40		10460	46.29	-27.71	74	15.46	38.46	17.32	24.95	100	360	P	H
CH 46		15690	47.76	-26.24	74	9.06	41.22	20.71	23.23	100	225	P	H
5230MHz		10460	48.11	-25.89	74	17.28	38.46	17.32	24.95	100	360	P	V
		15690	46.96	-27.04	74	8.26	41.22	20.71	23.23	100	225	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E 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.		( MHz )	( dBμV/m )	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		5142.8	57.46	-16.54	74	37.68	34.68	13.42	28.32	121	47	P	H
		5097.2	46.56	-7.44	54	26.83	34.62	13.33	28.22	121	47	A	H
	*	5260	99.1	-	-	79	34.82	13.68	28.4	121	47	P	H
	*	5260	90.61	-	-	70.51	34.82	13.68	28.4	121	47	A	H
		5447.24	57.17	-16.83	74	37.03	35.04	13.45	28.35	121	47	P	H
		5403.68	46.65	-7.35	54	26.53	34.98	13.49	28.35	121	47	A	H
		5014.4	57.49	-16.51	74	37.86	34.52	13.16	28.05	168	266	P	V
		5145.5	46.49	-7.51	54	26.71	34.68	13.42	28.32	168	266	A	V
	*	5260	93.41	-	-	73.31	34.82	13.68	28.4	168	266	P	V
	*	5260	84.85	-	-	64.75	34.82	13.68	28.4	168	266	A	V
		5351.87	56.97	-17.03	74	36.88	34.92	13.54	28.37	168	266	P	V
		5402.69	46.41	-7.59	54	26.29	34.98	13.49	28.35	168	266	A	V
802.11a CH 60 5300MHz		5010.95	57.6	-16.4	74	37.97	34.52	13.16	28.05	159	46	P	H
		5137.1	46.48	-7.52	54	26.69	34.66	13.42	28.29	159	46	A	H
	*	5300	99.27	-	-	79.17	34.86	13.63	28.39	159	46	P	H
	*	5300	90.41	-	-	70.31	34.86	13.63	28.39	159	46	A	H
		5426.89	56.73	-17.27	74	36.63	35	13.45	28.35	159	46	P	H
		5352.53	46.67	-7.33	54	26.58	34.92	13.54	28.37	159	46	A	H
		5108.6	56.94	-17.06	74	37.22	34.64	13.33	28.25	164	268	P	V
		5140.4	46.53	-7.47	54	26.75	34.68	13.42	28.32	164	268	A	V
	*	5300	95.1	-	-	75	34.86	13.63	28.39	164	268	P	V
	*	5300	86.07	-	-	65.97	34.86	13.63	28.39	164	268	A	V
		5388.72	57.56	-16.44	74	37.47	34.96	13.49	28.36	164	268	P	V
		5458.02	46.44	-7.56	54	26.3	35.04	13.45	28.35	164	268	A	V



802.11a CH 64 5320MHz	*	5320	99.5	-	-	79.41	34.88	13.59	28.38	154	71	P	H
	*	5320	90.82	-	-	70.73	34.88	13.59	28.38	154	71	A	H
		5374.09	57.05	-16.95	74	36.93	34.94	13.54	28.36	154	71	P	H
		5373.21	46.91	-7.09	54	26.79	34.94	13.54	28.36	154	71	A	H
	*	5320	93.9	-	-	73.81	34.88	13.59	28.38	125	279	P	V
	*	5320	84.94	-	-	64.85	34.88	13.59	28.38	125	279	A	V
		5372	56.92	-17.08	74	36.8	34.94	13.54	28.36	125	279	P	V
		5438.77	46.41	-7.59	54	26.29	35.02	13.45	28.35	125	279	A	V
Remark	<ol style="list-style-type: none"> <li>No other spurious found.</li> <li>All results are PASS against Peak and Average limit line.</li> </ol>												



**15E band 2 5250~5350MHz  
WIFI 802.11a (Harmonic @ 3m)**

WIFI Ant.	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	46.93	-27.07	74	16.01	38.51	17.29	24.88	110	220	P	H
		15780	47.9	-26.1	74	9.08	41.19	20.75	23.12	109	345	P	H
		10520	46.79	-27.21	74	15.87	38.51	17.29	24.88	110	220	P	V
		15780	48.2	-25.8	74	9.38	41.19	20.75	23.12	109	345	P	V
802.11a CH 60 5300MHz		10600	46.44	-27.56	74	15.41	38.56	17.25	24.78	185	215	P	H
		15900	48.5	-25.5	74	9.87	41.14	20.5	23.01	196	190	P	H
		10600	47.1	-26.9	74	16.07	38.56	17.25	24.78	185	215	P	V
		15900	47.7	-26.3	74	9.07	41.14	20.5	23.01	196	190	P	V
802.11a CH 64 5320MHz		10640	47.5	-26.5	74	16.41	38.58	17.23	24.72	152	135	P	H
		15960	47.79	-26.21	74	9.3	41.11	20.33	22.95	173	245	P	H
		10640	47.03	-26.97	74	15.94	38.58	17.23	24.72	152	135	P	V
		15960	47.8	-26.2	74	9.31	41.11	20.33	22.95	173	245	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**15E band 2 5250~5350MHz  
WIFI 802.11n HT20 (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 )
802.11n HT20 CH 52 5260MHz		5099.3	57.7	-16.3	74	37.97	34.62	13.33	28.22	197	227	P	H
		5134.7	46.54	-7.46	54	26.75	34.66	13.42	28.29	197	227	A	H
	*	5260	98.54	-	-	78.44	34.82	13.68	28.4	197	227	P	H
	*	5260	90.17	-	-	70.07	34.82	13.68	28.4	197	227	A	H
		5457.58	57.33	-16.67	74	37.19	35.04	13.45	28.35	197	227	P	H
		5398.18	46.48	-7.52	54	26.36	34.98	13.49	28.35	197	227	A	H
		5137.85	56.45	-17.55	74	36.66	34.66	13.42	28.29	194	85	P	V
		5120.3	46.44	-7.56	54	26.63	34.64	13.42	28.25	194	85	A	V
	*	5260	93.2	-	-	73.1	34.82	13.68	28.4	194	85	P	V
	*	5260	84.6	-	-	64.5	34.82	13.68	28.4	194	85	A	V
		5386.08	57.25	-16.75	74	37.11	34.96	13.54	28.36	194	85	P	V
		5453.51	46.43	-7.57	54	26.29	35.04	13.45	28.35	194	85	A	V
802.11n HT20 CH 60 5300MHz		5141.75	57.88	-16.12	74	38.1	34.68	13.42	28.32	199	227	P	H
		5112.95	46.53	-7.47	54	26.81	34.64	13.33	28.25	199	227	A	H
	*	5300	99.07	-	-	78.97	34.86	13.63	28.39	199	227	P	H
	*	5300	89.92	-	-	69.82	34.86	13.63	28.39	199	227	A	H
		5440.2	56.86	-17.14	74	36.74	35.02	13.45	28.35	199	227	P	H
		5351.54	46.75	-7.25	54	26.66	34.92	13.54	28.37	199	227	A	H
		5132.75	57.56	-16.44	74	37.77	34.66	13.42	28.29	154	91	P	V
		5125.7	46.5	-7.5	54	26.71	34.66	13.42	28.29	154	91	A	V
	*	5300	93.26	-	-	73.16	34.86	13.63	28.39	154	91	P	V
	*	5300	84.53	-	-	64.43	34.86	13.63	28.39	154	91	A	V
		5407.42	57.28	-16.72	74	37.16	34.98	13.49	28.35	154	91	P	V
		5362.43	46.56	-7.44	54	26.44	34.94	13.54	28.36	154	91	A	V



<b>802.11n</b> <b>HT20</b> <b>CH 64</b> <b>5320MHz</b>	*	5320	99.65	-	-	79.56	34.88	13.59	28.38	198	230	P	H
	*	5320	90.46	-	-	70.37	34.88	13.59	28.38	198	230	A	H
		5387.84	56.88	-17.12	74	36.79	34.96	13.49	28.36	198	230	P	H
		5372.11	46.81	-7.19	54	26.69	34.94	13.54	28.36	198	230	A	H
	*	5320	95.11	-	-	75.02	34.88	13.59	28.38	172	88	P	V
	*	5320	86.9	-	-	66.81	34.88	13.59	28.38	172	88	A	V
		5448.89	56.68	-17.32	74	36.54	35.04	13.45	28.35	172	88	P	V
		5456.92	46.52	-7.48	54	26.38	35.04	13.45	28.35	172	88	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**15E band 2 5250~5350MHz  
WIFI 802.11n HT20 (Harmonic @ 3m)**

WIFI Ant.	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	46.75	-27.25	74	15.83	38.51	17.29	24.88	110	220	P	H
		15780	47.92	-26.08	74	9.1	41.19	20.75	23.12	109	345	P	H
		10520	46.69	-27.31	74	15.77	38.51	17.29	24.88	110	220	P	V
		15780	47.67	-26.33	74	8.85	41.19	20.75	23.12	109	345	P	V
802.11n HT20 CH 60 5300MHz		10600	47.94	-26.06	74	16.91	38.56	17.25	24.78	185	215	P	H
		15900	48.33	-25.67	74	9.7	41.14	20.5	23.01	196	190	P	H
		10600	47.03	-26.97	74	16	38.56	17.25	24.78	185	215	P	V
		15900	49.66	-24.34	74	11.03	41.14	20.5	23.01	196	190	P	V
802.11n HT20 CH 64 5320MHz		10640	46.82	-27.18	74	15.73	38.58	17.23	24.72	152	135	P	H
		15960	48.9	-25.1	74	10.41	41.11	20.33	22.95	173	245	P	H
		10640	46.44	-27.56	74	15.35	38.58	17.23	24.72	152	135	P	V
		15960	47.84	-26.16	74	9.35	41.11	20.33	22.95	173	245	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**15E band 2 5250~5350MHz  
WIFI 802.11n HT40 (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 )
802.11n HT40 CH 54 5270MHz		5070.2	56.6	-17.4	74	36.92	34.58	13.25	28.15	174	236	P	H
		5140.7	47.23	-6.77	54	27.45	34.68	13.42	28.32	174	236	A	H
	*	5270	99.69	-	-	79.59	34.82	13.68	28.4	174	236	P	H
	*	5270	91.35	-	-	71.25	34.82	13.68	28.4	174	236	A	H
		5363.31	57.43	-16.57	74	37.31	34.94	13.54	28.36	174	236	P	H
		5445.92	47.2	-6.8	54	27.06	35.04	13.45	28.35	174	236	A	H
		5132.75	57.01	-16.99	74	37.22	34.66	13.42	28.29	163	96	P	V
		5126.6	47.18	-6.82	54	27.39	34.66	13.42	28.29	163	96	A	V
	*	5270	94.19	-	-	74.09	34.82	13.68	28.4	163	96	P	V
	*	5270	85.28	-	-	65.18	34.82	13.68	28.4	163	96	A	V
		5451.75	56.5	-17.5	74	36.36	35.04	13.45	28.35	163	96	P	V
		5361.66	47.18	-6.82	54	27.06	34.94	13.54	28.36	163	96	A	V
802.11n HT40 CH 62 5310MHz		5120.15	56.75	-17.25	74	36.94	34.64	13.42	28.25	174	236	P	H
		5105.3	47.27	-6.73	54	27.54	34.62	13.33	28.22	174	236	A	H
	*	5310	100.11	-	-	80.02	34.88	13.59	28.38	174	236	P	H
	*	5310	91.85	-	-	71.76	34.88	13.59	28.38	174	236	A	H
		5353.08	61.63	-12.37	74	41.54	34.92	13.54	28.37	174	236	P	H
		5350.99	51.3	-2.7	54	31.21	34.92	13.54	28.37	174	236	A	H
		5120.9	57.21	-16.79	74	37.4	34.64	13.42	28.25	163	96	P	V
		5105.45	47.14	-6.86	54	27.41	34.62	13.33	28.22	163	96	A	V
	*	5310	94.7	-	-	74.61	34.88	13.59	28.38	163	96	P	V
	*	5310	85.92	-	-	65.83	34.88	13.59	28.38	163	96	A	V
		5400.6	58.06	-15.94	74	37.94	34.98	13.49	28.35	163	96	P	V
		5350	47.99	-6.01	54	27.9	34.92	13.54	28.37	163	96	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**15E band 2 5250~5350MHz**  
**WIFI 802.11n HT40 (Harmonic @ 3m)**

WIFI Ant.	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	45.94	-28.06	74	15.01	38.52	17.27	24.86	110	220	P	H
		15810	47.94	-26.06	74	9.17	41.18	20.67	23.08	109	345	P	H
		10540	46.99	-27.01	74	16.06	38.52	17.27	24.86	110	220	P	V
		15810	48.19	-25.81	74	9.42	41.18	20.67	23.08	109	345	P	V
802.11n HT40 CH 62 5310MHz		10620	45.76	-28.24	74	14.71	38.57	17.23	24.75	100	220	P	H
		15930	48.78	-25.22	74	10.22	41.13	20.41	22.98	100	100	P	H
		10620	47.51	-26.49	74	16.46	38.57	17.23	24.75	100	220	P	V
		15930	48.74	-25.26	74	10.18	41.13	20.41	22.98	100	100	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15E Emission below 1GHz

WIFI 802.11n HT40 (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.		( MHz )	( dBμV/m )	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		( MHz )	( dBμV/m )	( dB )	( dBμV/m )	( dBμV )	( dB/m )	( dB )	( dB )	( cm )	( deg )	(P/A)	(H/V)
802.11n HT40 LF		99.84	28.35	-15.15	43.5	40.88	11.7	1.55	25.78	152	213	P	H
		252.13	22.34	-23.66	46	32.52	12.47	2.49	25.14	-	-	P	H
		397.63	22.68	-23.32	46	29.93	15.37	3.18	25.8	-	-	P	H
		596.48	26.14	-19.86	46	28.94	19.69	3.95	26.44	-	-	P	H
		784.66	27.13	-18.87	46	26.63	22.16	4.54	26.2	-	-	P	H
		973.81	27.31	-26.69	54	26.22	21.3	5.1	25.31	-	-	P	H
		70.74	29.62	-10.38	40	45.49	8.75	1.28	25.9	165	254	P	V
		203.63	22.38	-21.12	43.5	33.73	11.66	2.23	25.24	-	-	P	V
		385.02	22.13	-23.87	46	29.5	15.21	3.12	25.7	-	-	P	V
		640.13	25.6	-20.4	46	28	19.94	4.07	26.41	-	-	P	V
		834.13	27.8	-18.2	46	26.97	22.19	4.71	26.07	-	-	P	V
	972.84	28.18	-25.82	54	27.08	21.31	5.11	25.32	-	-	P	V	
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



**Note symbol**

*	<b>Fundamental Frequency</b> which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency per 15.209(c).
!	Test result is <b>over limit</b> line.
P/A	<b>Peak</b> or <b>Average</b>
H/V	<b>Horizontal</b> or <b>Vertical</b>



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

WIFI Ant.	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 )
802.11b		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
2412MHz		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

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

**For Peak Limit @ 2390MHz:**

- 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)
- Over Limit(dB)  
= Level(dBμV/m) – Limit Line(dBμV/m)  
= 55.45(dBμV/m) – 74(dBμV/m)  
= -18.55(dB)

**For Average Limit @ 2390MHz:**

- 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)
- 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”.**