

FCC RF Test Report

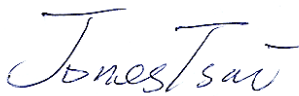
APPLICANT : Samsung Electronics Co., Ltd.
EQUIPMENT : Tablet PC
BRAND NAME : SAMSUNG
MODEL NAME : SM-P555C
FCC ID : A3LSMP555C
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure

The product was received on Mar. 10, 2015 and testing was completed on Apr. 10, 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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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR531006E	Rev. 01	Initial issue of report	Apr. 16, 2015

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	$\leq -17, -27$ dBm (depend on band)&15.209(a)	Pass	Under limit 4.17 dB at 5149.250 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 20.02 dB at 0.370 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-P555C
FCC ID	A3LSMP555C
GSM Operating Band(s)	GSM 900/1800/1900/850MHz
GPRS/EGPRS Multi-slot Class	GPRS Class 33, EGPRS Class 33
WCDMA Operating Band(s)	FDD Band I/II/V/VIII
LTE Operating Band(s)	FDD Band 1/3/8/28 TDD Band 41
Wi-Fi Specification	2.4GHz 802.11b/g/n HT20 5GHz 802.11a/n HT20/HT40
Bluetooth Version	Bluetooth v3.0 + EDR/Bluetooth v4.0 LE
ANT+ Specification	2.4GHz
IMEI Code	Conducted: 354171050000373 Radiated: 354171050000349 Conduction: 354171050000315
HW Version	REV1.0
SW Version	P555C.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	
Tx/Rx Frequency Range	5180 MHz ~ 5240 MHz 5260 MHz ~ 5320 MHz
Maximum Output Power to Antenna	<5180 MHz ~ 5240 MHz> 802.11a : 10.24 dBm / 0.0106 W 802.11n HT20 : 10.22 dBm / 0.0105 W 802.11n HT40 : 8.35 dBm / 0.0068 W <5260 MHz ~ 5320 MHz> 802.11a : 10.96 dBm / 0.0125 W 802.11n HT20 : 10.90 dBm / 0.0123 W 802.11n HT40 : 8.79 dBm / 0.0076 W
Antenna Type	FPCB Antenna
Antenna Gain	<5180 MHz ~ 5240 MHz> : -3.90 dBi <5260 MHz ~ 5320 MHz> : -3.80 dBi
Type of Modulation	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

Test Site	SPORTON INTERNATIONAL (SHENZHEN) INC.	
Test Site Location	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	
Test Site No.	Sporton Site No.	
	TH01-SZ	CO01-SZ

Test Site	SPORTON INTERNATIONAL (SHENZHEN) INC.	
Test Site Location	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	
Test Site No.	Sporton Site No.	FCC Registration No.
	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 (Y 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
	38	5190	46	5230
	40	5200	48	5240

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

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 6Mbps	Channel	9M bps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
CH 36	5180	9.96	CH 48	9.99	10.04	10.03	10.08	10.11	10.07	10.06
CH 44	5220	10.05								
CH 48	5240	10.24								
CH 52	5260	10.32	CH 64	10.56	10.61	10.58	10.62	10.69	10.71	10.56
CH 60	5300	10.74								
CH 64	5320	10.96								

5GHz 802.11n HT20 RF Output Power (dBm)										
Power vs. Channel			Power vs. MCS Index							
Channel	Frequency (MHz)	MCS Index MCS0	Channel	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 36	5180	9.83	CH 48	10.07	10.07	10.13	10.16	10.06	10.15	10.12
CH 44	5220	10.14								
CH 48	5240	10.22								
CH 52	5260	10.42	CH 64	10.82	10.81	10.85	10.83	10.66	10.85	10.86
CH 60	5300	10.87								
CH 64	5320	10.90								

5GHz 802.11n HT40 RF Output Power (dBm)										
Power vs. Channel			Power vs. MCS Index							
Channel	Frequency (MHz)	MCS Index MCS0	Channel	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 38	5190	8.09	CH 46	8.31	8.30	8.30	8.33	8.30	8.32	8.31
CH 46	5230	8.35								
CH 54	5270	8.44	CH 62	8.76	8.76	8.77	8.75	8.77	8.73	8.76
CH 62	5310	8.79								

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

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



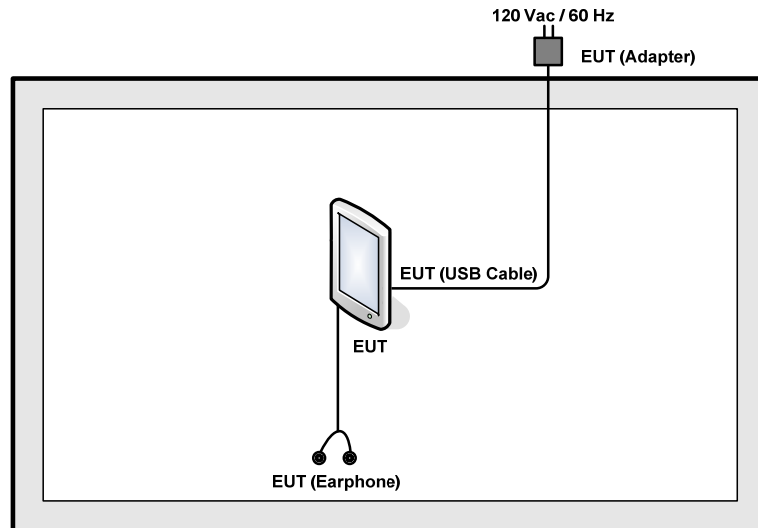
Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz
		802.11a	802.11a
L	Low	36	52
M	Middle	44	60
H	High	48	64

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

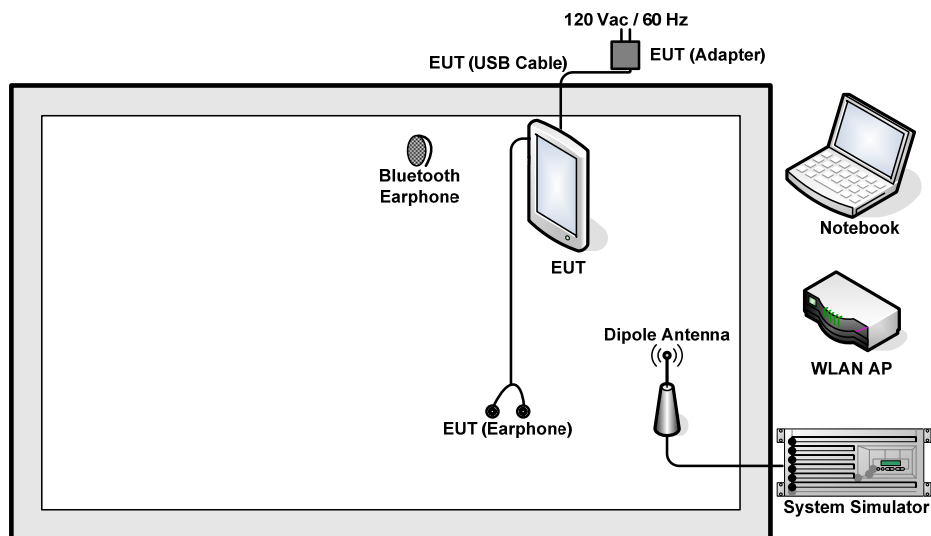
Ch. #		Band I : 5150-5250 MHz	Band II : 5250-5350 MHz
		802.11n HT40	802.11n HT40
L	Low	38	54
M	Middle	-	-
H	High	46	62

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.

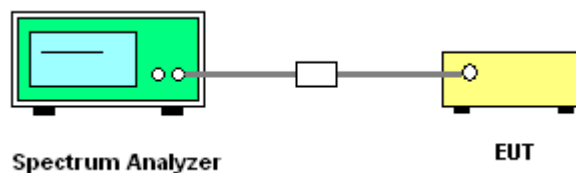
3.1.2 Measuring Instruments

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) $\geq 3 * \text{RBW}$.
8. Measure and record the results in the test report.

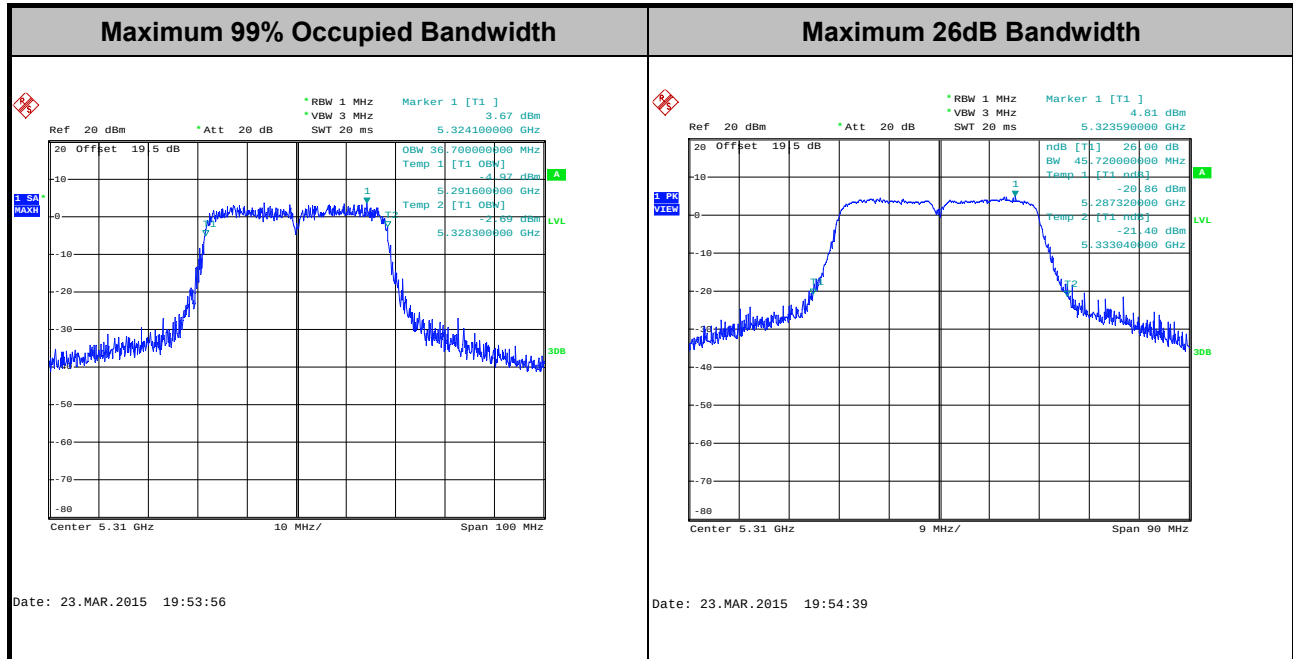
3.1.4 Test Setup





3.1.5 Test Result of 26dB & 99% Occupied Bandwidth 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.

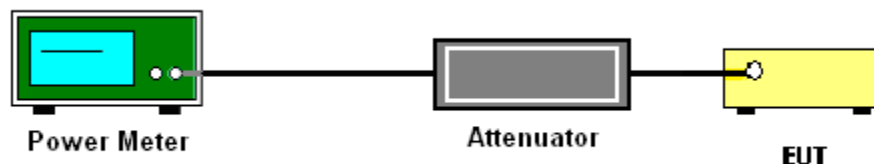
3.2.3 Test Procedures

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.

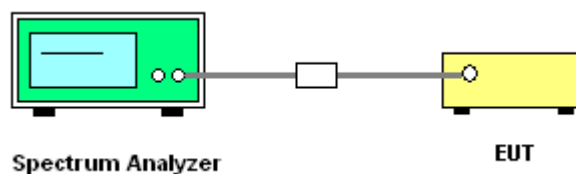
Section F) Maximum power spectral density.

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





Worst Case Power Spectral Density(dBm/MHz)

Ref 20 dBm *Att 20 dB *RBW 1 MHz Marker 1 [T1] 1.99 dBm
 *VBW 3 MHz SWT 20 ms 5.324400000 GHz

20 OffSet 19 5 dB

1 RM*
AVG

SWF 100 of 100

1

A SGL
LVL
3DB

Center 5.32 GHz 5 MHz/ Span 50 MHz

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.

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

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 $\geq$ 3 MHz
- Detector = Peak
- Sweep time = auto
- Trace mode = max hold

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

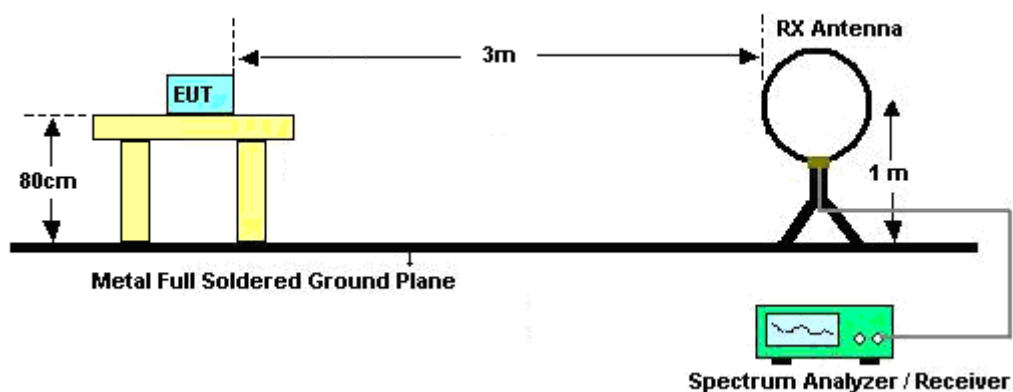
- RBW = 1 MHz
- VBW = 10 Hz, when duty cycle is no less than 98 percent.
- VBW $\geq$ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

Band	Duty Cycle (%)	T(ms)	1/T(kHz)	VBW Setting
802.11a	93.58	1.40	0.71	1kHz
802.11n HT20	93.01	1.30	0.77	1kHz
802.11n HT40	86.56	0.64	1.55	3kHz

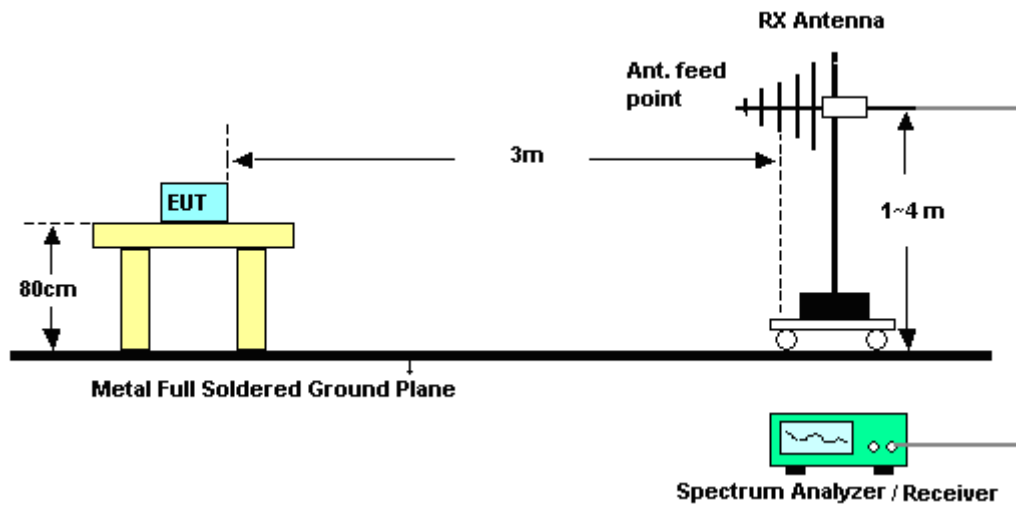
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband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

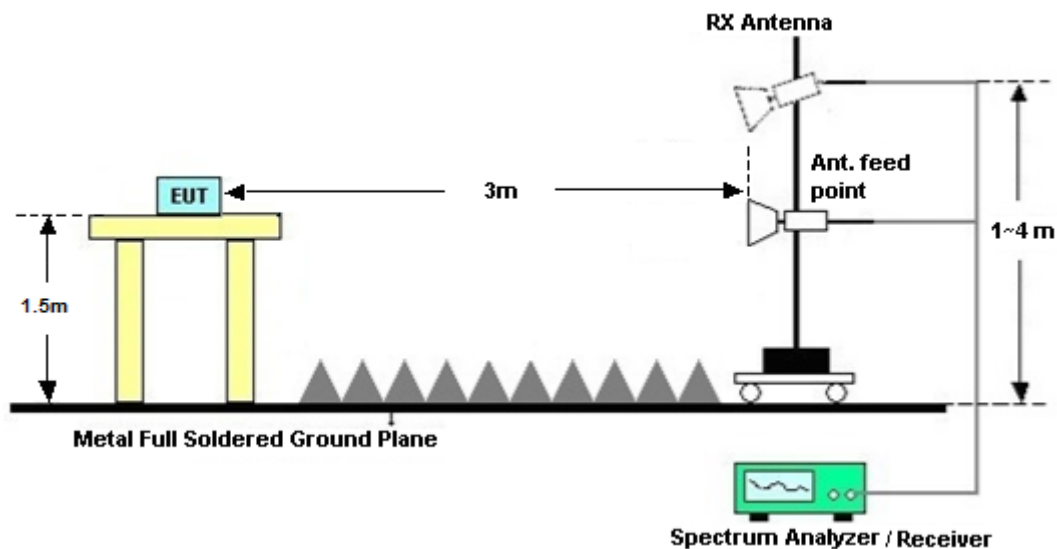
For radiated emissions below 30MHz



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 30MHz, was pre-scanned and the result which was 20dB 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 (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 (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

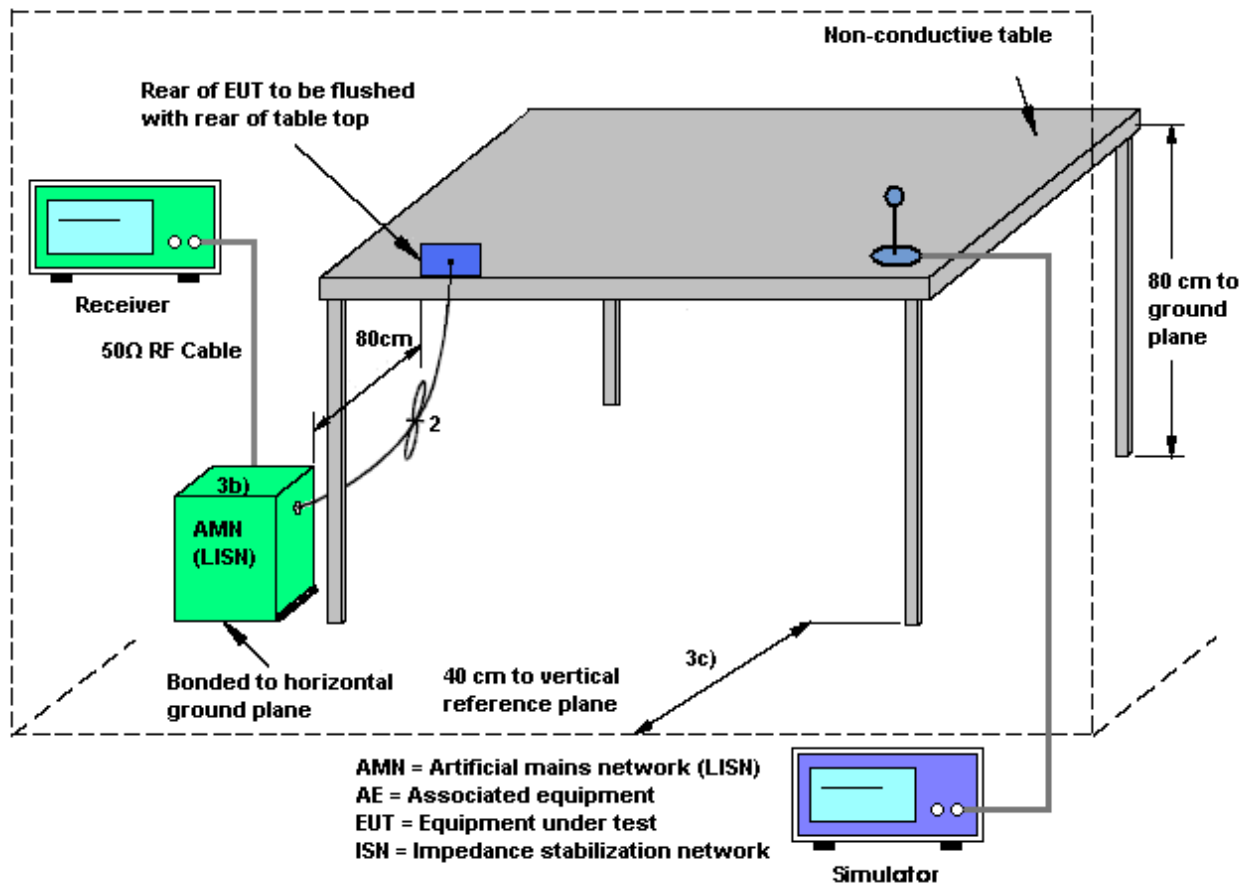
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

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

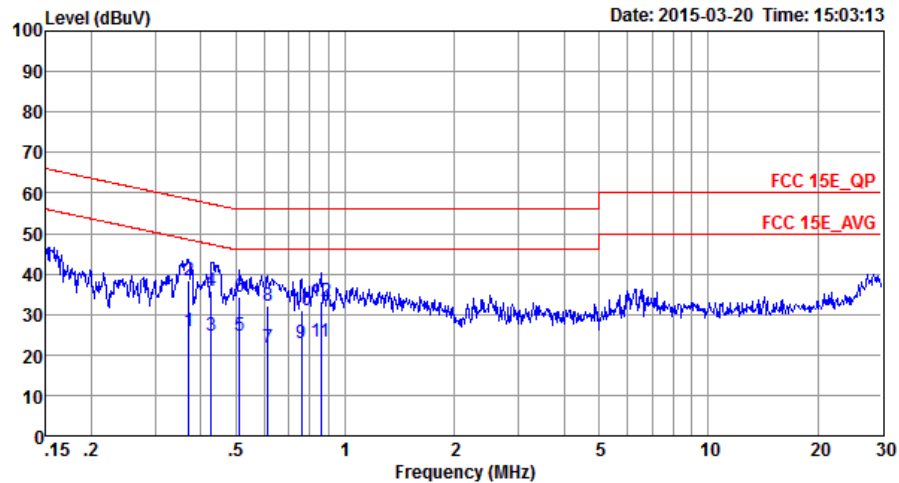
3.5.4 Test Setup





3.5.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	21~22℃
Test Engineer :	Jack Tian	Relative Humidity :	41~42%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM1900 Idle + Bluetooth Link + WLAN (5GHz) Link + USB Cable (Charging from Adapter) + Earphone		

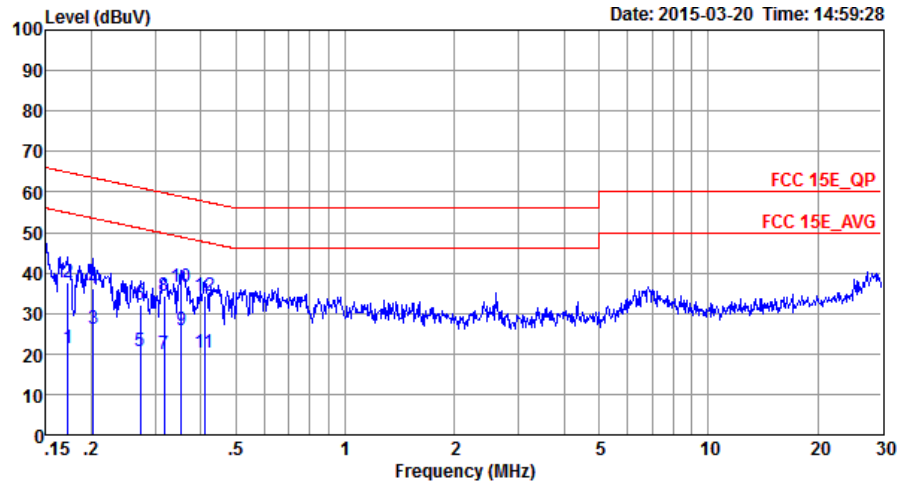


Site : C001-SZ
Condition: FCC 15E_QP LISN_L_20140304 LINE

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.37	25.95	-22.52	48.47	15.50	0.27	10.18	Average
2 *	0.37	38.45	-20.02	58.47	28.00	0.27	10.18	QP
3	0.43	24.65	-22.64	47.29	14.20	0.29	10.16	Average
4	0.43	35.65	-21.64	57.29	25.20	0.29	10.16	QP
5	0.51	24.75	-21.25	46.00	14.30	0.29	10.16	Average
6	0.51	34.15	-21.85	56.00	23.70	0.29	10.16	QP
7	0.61	21.68	-24.32	46.00	11.30	0.23	10.15	Average
8	0.61	31.98	-24.02	56.00	21.60	0.23	10.15	QP
9	0.76	22.85	-23.15	46.00	12.50	0.20	10.15	Average
10	0.76	31.05	-24.95	56.00	20.70	0.20	10.15	QP
11	0.86	23.08	-22.92	46.00	12.70	0.23	10.15	Average
12	0.86	33.38	-22.62	56.00	23.00	0.23	10.15	QP



Test Mode :	Mode 1	Temperature :	21~22℃
Test Engineer :	Jack Tian	Relative Humidity :	41~42%
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	0.17	21.45	-33.41	54.86	10.79	0.33	10.33	Average
2	0.17	37.75	-27.11	64.86	27.09	0.33	10.33	QP
3	0.20	26.31	-27.18	53.49	15.70	0.32	10.29	Average
4	0.20	36.21	-27.28	63.49	25.60	0.32	10.29	QP
5	0.27	20.57	-30.46	51.03	10.00	0.35	10.22	Average
6	0.27	32.07	-28.96	61.03	21.50	0.35	10.22	QP
7	0.32	20.06	-29.74	49.80	9.50	0.37	10.19	Average
8	0.32	34.16	-25.64	59.80	23.60	0.37	10.19	QP
9	0.35	25.66	-23.21	48.87	15.10	0.38	10.18	Average
10 *	0.35	36.36	-22.51	58.87	25.80	0.38	10.18	QP
11	0.41	20.46	-27.18	47.64	9.90	0.39	10.17	Average
12	0.41	34.16	-23.48	57.64	23.60	0.39	10.17	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.

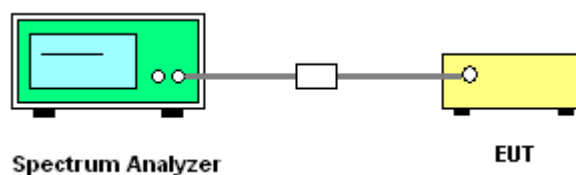
3.6.2 Measuring Instruments

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	Mar. 19, 2015~ Mar. 23, 2015	Jan. 27, 2016	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	10Hz~40GHz	Jan. 28, 2015	Mar. 19, 2015~ Mar. 23, 2015	Jan. 27, 2016	Conducted (TH01-SZ)
Power Sensor	Anritsu	MA2411B	1207253	0.3GHz~40GHz	Jan. 28, 2015	Mar. 19, 2015~ Mar. 23, 2015	Jan. 27, 2016	Conducted (TH01-SZ)
Thermal Chamber	Hongzhangroup	LP-150U	HD201204 25	-40℃~150℃	Jan. 28, 2015	Mar. 19, 2015~ Mar. 23, 2015	Jan. 27, 2016	Conducted (TH01-SZ)
DC Power Supply	GWINSTEK	GPS-3030D	EM882636	DC 10~30V	May 08, 2014	Mar. 19, 2015~ Mar. 23, 2015	May 07, 2015	Conducted (TH01-SZ)
ESCIO TEST Receiver	R&S	ESC17	100768	9kHz~3GHz	May 04, 2014	Apr. 10, 2015	May 03, 2015	Radiation (03CH01-SZ)
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	May 08, 2014	Apr. 10, 2015	May 07, 2015	Radiation (03CH01-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	May 09, 2014	Apr. 10, 2015	May 08, 2015	Radiation (03CH01-SZ)
Bilog Antenna	TESEQ	CBL 6112D	37877	30MHz~2GHz	Oct. 15, 2014	Apr. 10, 2015	Oct. 14, 2015	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS Lindgren	3117	00119436	1GHz~18GHz	Oct. 15, 2014	Apr. 10, 2015	Oct. 14, 2015	Radiation (03CH01-SZ)
Double Ridged Horn Antenna	COM-POWER	AH-840	101073	18GHz~40GHz	Jun. 09, 2014	Apr. 10, 2015	Jun. 08, 2015	Radiation (03CH01-SZ)
Amplifier	ADVANTEST	BB525C	E9007003	9kHz~3000MHz GAIN 30db	Jan. 28, 2015	Apr. 10, 2015	Jan. 27, 2016	Radiation (03CH01-SZ)
Amplifier	Chengyi	AMF-7D-001018 00-30-10P-R	1707137	1GHz~18GHz	May 08, 2014	Apr. 10, 2015	May 07, 2015	Radiation (03CH01-SZ)
Amplifier	Yiai	AV3860B	04030	2GHz~26.5GHz	May 08, 2014	Apr. 10, 2015	May 07, 2015	Radiation (03CH01-SZ)
Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 08, 2014	Apr. 10, 2015	Jul. 07, 2015	Radiation (03CH01-SZ)
AC Source	Chroma	61601ACSOUR CE	616010002 470	100Vac~240Vac	NCR	Apr. 10, 2015	NCR	Radiation (03CH01-SZ)
Turn Table	EM Electronics	EM 1000	N/A	0~360 degree	NCR	Apr. 10, 2015	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM Electronics	EM 1000	N/A	1 m~4 m	NCR	Apr. 10, 2015	NCR	Radiation (03CH01-SZ)
EMI TEST Receiver	R&S	ESC17	100768	9kHz~3GHz	May 04, 2014	Mar. 20, 2015	May 03, 2015	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103912	9kHz~30MHz	Feb. 02, 2015	Mar. 20, 2015	Feb. 01, 2016	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Feb. 02, 2015	Mar. 20, 2015	Feb. 01, 2016	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000 891	100Vac~250Vac	Sep. 29, 2014	Mar. 20, 2015	Sep. 28, 2015	Conduction (CO01-SZ)
System Simulator	R&S	CMU 200	116456	Full-Band	Aug. 11, 2014	Mar. 20, 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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Report Number : FR531006E

Test Engineer:	Mygai Mo	Temperature:	21~25	°C
Test Date:	2015/3/19~2015/3/23	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	18.35	25.15	-	22.64		
11a	6Mbps	1	44	5220	18.70	31.40	-	22.72		
11a	6Mbps	1	48	5240	18.60	29.35	-	22.70		
HT20	MCS0	1	36	5180	19.35	28.60	-	22.87		
HT20	MCS0	1	44	5220	19.60	32.80	-	22.92		
HT20	MCS0	1	48	5240	19.55	31.85	-	22.91		
HT40	MCS0	1	38	5190	36.50	45.63	-	23.01		
HT40	MCS0	1	46	5230	36.60	45.72	-	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	0.29	9.96	24.00	-3.90		Pass
11a	6Mbps	1	44	5220	0.29	10.05	24.00	-3.90		Pass
11a	6Mbps	1	48	5240	0.29	10.24	24.00	-3.90		Pass
HT20	MCS0	1	36	5180	0.31	9.83	24.00	-3.90		Pass
HT20	MCS0	1	44	5220	0.31	10.14	24.00	-3.90		Pass
HT20	MCS0	1	48	5240	0.31	10.22	24.00	-3.90		Pass
HT40	MCS0	1	38	5190	0.63	8.09	24.00	-3.90		Pass
HT40	MCS0	1	46	5230	0.63	8.35	24.00	-3.90		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	0.29	1.40	11.00	-3.90		Pass
11a	6Mbps	1	44	5220	0.29	1.44	11.00	-3.90		Pass
11a	6Mbps	1	48	5240	0.29	1.64	11.00	-3.90		Pass
HT20	MCS0	1	36	5180	0.31	1.01	11.00	-3.90		Pass
HT20	MCS0	1	44	5220	0.31	1.27	11.00	-3.90		Pass
HT20	MCS0	1	48	5240	0.31	1.45	11.00	-3.90		Pass
HT40	MCS0	1	38	5190	0.63	-5.31	11.00	-3.90		Pass
HT40	MCS0	1	46	5230	0.63	-4.59	11.00	-3.90		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	18.75	32.2	23.73	29.73	23.98	
11a	6Mbps	1	60	5300	18.85	31.7	23.75	29.75	23.98	
11a	6Mbps	1	64	5320	19.15	36.15	23.82	29.82	23.98	
HT20	MCS0	1	52	5260	19.7	35.4	23.94	29.94	23.98	
HT20	MCS0	1	60	5300	19.65	33.3	23.93	29.93	23.98	
HT20	MCS0	1	64	5320	19.85	36.9	23.98	29.98	23.98	
HT40	MCS0	1	54	5270	36.6	45.18	23.98	30.00	23.98	
HT40	MCS0	1	62	5310	36.7	45.72	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	0.29	10.32	23.98	-3.80		Pass
11a	6Mbps	1	60	5300	0.29	10.74	23.98	-3.80		Pass
11a	6Mbps	1	64	5320	0.29	10.96	23.98	-3.80		Pass
HT20	MCS0	1	52	5260	0.31	10.42	23.98	-3.80		Pass
HT20	MCS0	1	60	5300	0.31	10.87	23.98	-3.80		Pass
HT20	MCS0	1	64	5320	0.31	10.90	23.98	-3.80		Pass
HT40	MCS0	1	54	5270	0.63	8.44	23.98	-3.80		Pass
HT40	MCS0	1	62	5310	0.63	8.79	23.98	-3.80		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	0.29	1.63	11.00	-3.80		Pass
11a	6Mbps	1	60	5300	0.29	2.24	11.00	-3.80		Pass
11a	6Mbps	1	64	5320	0.29	2.28	11.00	-3.80		Pass
HT20	MCS0	1	52	5260	0.31	1.45	11.00	-3.80		Pass
HT20	MCS0	1	60	5300	0.31	1.84	11.00	-3.80		Pass
HT20	MCS0	1	64	5320	0.31	1.81	11.00	-3.80		Pass
HT40	MCS0	1	54	5270	0.63	-4.48	11.00	-3.80		Pass
HT40	MCS0	1	62	5310	0.63	-4.22	11.00	-3.80		Pass

TEST RESULTS DATA
Frequency Stability

Band I										
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stability (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	20	3.6	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	20	4.2	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	20	3.8	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	-30	3.8	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	50	3.8	

Band II										
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stability (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	20	3.6	
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	20	4.2	
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	20	3.8	
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	-30	3.8	
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	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		5065.7	56.86	-17.14	74	37.18	34.58	13.25	28.15	187	356	P	H
		5127.35	47	-7	54	27.21	34.66	13.42	28.29	187	356	A	H
	*	5180	99.85	-	-	80.01	34.72	13.51	28.39	187	356	P	H
	*	5180	91.07	-	-	71.23	34.72	13.51	28.39	187	356	A	H
		5076.05	56.72	-17.28	74	36.98	34.6	13.33	28.19	127	11	P	V
		5129.75	46.63	-7.37	54	26.84	34.66	13.42	28.29	127	11	A	V
	*	5180	91.91	-	-	72.07	34.72	13.51	28.39	127	11	P	V
	*	5180	83.2	-	-	63.36	34.72	13.51	28.39	127	11	A	V
802.11a CH 44 5220MHz		5139.8	57.21	-16.79	74	37.43	34.68	13.42	28.32	120	360	P	H
		5139.2	46.66	-7.34	54	26.87	34.66	13.42	28.29	120	360	A	H
	*	5220	99.09	-	-	79.15	34.76	13.59	28.41	120	360	P	H
	*	5220	89.74	-	-	69.8	34.76	13.59	28.41	120	360	A	H
		5368.92	57.07	-16.93	74	36.95	34.94	13.54	28.36	120	360	P	H
		5415.67	46.42	-7.58	54	26.28	35	13.49	28.35	120	360	A	H
		5088.05	57.05	-16.95	74	37.31	34.6	13.33	28.19	142	16	P	V
		5135	46.42	-7.58	54	26.63	34.66	13.42	28.29	142	16	A	V
	*	5220	90.1	-	-	70.16	34.76	13.59	28.41	142	16	P	V
	*	5220	83.01	-	-	63.07	34.76	13.59	28.41	142	16	A	V
		5363.09	57	-17	74	36.88	34.94	13.54	28.36	142	16	P	V
		5447.57	46.46	-7.54	54	26.32	35.04	13.45	28.35	142	16	A	V



802.11a CH 48 5240MHz		5040.05	56.96	-17.04	74	37.27	34.56	13.25	28.12	120	359	P	H
		5094.8	46.46	-7.54	54	26.73	34.62	13.33	28.22	120	359	A	H
	*	5240	97.35	-	-	77.3	34.78	13.68	28.41	120	359	P	H
	*	5240	88.25	-	-	68.2	34.78	13.68	28.41	120	359	A	H
		5421.06	56.86	-17.14	74	36.72	35	13.49	28.35	120	359	P	H
		5408.3	46.5	-7.5	54	26.38	34.98	13.49	28.35	120	359	A	H
		5006.9	57.24	-16.76	74	37.61	34.52	13.16	28.05	138	19	P	V
		5149.55	46.58	-7.42	54	26.8	34.68	13.42	28.32	138	19	A	V
	*	5240	91.77	-	-	71.72	34.78	13.68	28.41	138	19	P	V
	*	5240	83.1	-	-	63.05	34.78	13.68	28.41	138	19	A	V
		5438.66	57.6	-16.4	74	37.48	35.02	13.45	28.35	138	19	P	V
		5453.07	46.38	-7.62	54	26.24	35.04	13.45	28.35	138	19	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 802.11a (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		10360	46.99	-27.01	74	41.46	38.39	17.43	50.29	152	260	P	H
		15540	50.62	-23.38	74	39.21	41.29	20.18	50.06	189	238	P	H
		10360	45.46	-28.54	74	39.93	38.39	17.43	50.29	152	260	P	V
		15540	50.63	-23.37	74	39.22	41.29	20.18	50.06	189	238	P	V
802.11a CH 44 5220MHz		10440	47.8	-26.2	74	42.34	38.45	17.36	50.35	125	230	P	H
		15660	50.6	-23.4	74	38.53	41.24	20.58	49.75	110	225	P	H
		10440	45.99	-28.01	74	40.53	38.45	17.36	50.35	125	230	P	V
		15660	50	-24	74	37.93	41.24	20.58	49.75	110	225	P	V
802.11a CH 48 5240MHz		10480	48.9	-25.1	74	43.49	38.49	17.32	50.4	149	289	P	H
		15720	49.67	-24.33	74	37.32	41.21	20.71	49.57	139	291	P	H
		10480	46.29	-27.71	74	40.88	38.49	17.32	50.4	149	289	P	V
		15720	49.72	-24.28	74	37.37	41.21	20.71	49.57	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 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		5124.5	57.17	-16.83	74	37.38	34.66	13.42	28.29	118	356	P	H
		5149.7	46.82	-7.18	54	27.04	34.68	13.42	28.32	118	356	A	H
	*	5180	98.19	-	-	78.35	34.72	13.51	28.39	118	356	P	H
	*	5180	89.42	-	-	69.58	34.72	13.51	28.39	118	356	A	H
		5125.25	56.96	-17.04	74	37.17	34.66	13.42	28.29	139	20	P	V
		5091.8	46.55	-7.45	54	26.82	34.62	13.33	28.22	139	20	A	V
	*	5180	91.7	-	-	71.86	34.72	13.51	28.39	139	20	P	V
	*	5180	83	-	-	63.16	34.72	13.51	28.39	139	20	A	V
802.11n HT20 CH 44 5220MHz		5081.15	56.99	-17.01	74	37.25	34.6	13.33	28.19	186	358	P	H
		5093.75	46.54	-7.46	54	26.81	34.62	13.33	28.22	186	358	A	H
	*	5220	99.63	-	-	79.69	34.76	13.59	28.41	186	358	P	H
	*	5220	90.61	-	-	70.67	34.76	13.59	28.41	186	358	A	H
		5364.08	56.94	-17.06	74	36.82	34.94	13.54	28.36	186	358	P	H
		5454.17	46.46	-7.54	54	26.32	35.04	13.45	28.35	186	358	A	H
		5084.75	57.44	-16.56	74	37.7	34.6	13.33	28.19	140	20	P	V
		5099.15	46.47	-7.53	54	26.74	34.62	13.33	28.22	140	20	A	V
	*	5220	92.66	-	-	72.72	34.76	13.59	28.41	140	20	P	V
	*	5220	83.6	-	-	63.66	34.76	13.59	28.41	140	20	A	V
		5368.92	56.68	-17.32	74	36.56	34.94	13.54	28.36	140	20	P	V
		5452.63	46.55	-7.45	54	26.41	35.04	13.45	28.35	140	20	A	V



802.11n HT20 CH 48 5240MHz		5044.55	56.72	-17.28	74	37.03	34.56	13.25	28.12	132	355	P	H
		5143.55	46.46	-7.54	54	26.68	34.68	13.42	28.32	132	355	A	H
	*	5240	98.07	-	-	78.02	34.78	13.68	28.41	132	355	P	H
	*	5240	88.54	-	-	68.49	34.78	13.68	28.41	132	355	A	H
		5370.02	57.09	-16.91	74	36.97	34.94	13.54	28.36	132	355	P	H
		5392.68	46.38	-7.62	54	26.29	34.96	13.49	28.36	132	355	A	H
		5119.25	57.41	-16.59	74	37.6	34.64	13.42	28.25	121	13	P	V
		5145.65	46.53	-7.47	54	26.75	34.68	13.42	28.32	121	13	A	V
	*	5240	91.63	-	-	71.58	34.78	13.68	28.41	121	13	P	V
	*	5240	82.88	-	-	62.83	34.78	13.68	28.41	121	13	A	V
		5388.94	56.67	-17.33	74	36.58	34.96	13.49	28.36	121	13	P	V
		5456.26	46.37	-7.63	54	26.23	35.04	13.45	28.35	121	13	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	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 36 5180MHz		10360	46.04	-27.96	74	40.51	38.39	17.43	50.29	152	260	P	H
		15540	50.45	-23.55	74	39.04	41.29	20.18	50.06	189	238	P	H
		10360	45.6	-28.4	74	40.07	38.39	17.43	50.29	152	260	P	V
		15540	50.37	-23.63	74	38.96	41.29	20.18	50.06	189	238	P	V
802.11n HT20 CH 44 5220MHz		10440	45.71	-28.29	74	40.25	38.45	17.36	50.35	125	230	P	H
		15660	49.99	-24.01	74	37.92	41.24	20.58	49.75	110	225	P	H
		10440	45.12	-28.88	74	39.66	38.45	17.36	50.35	125	230	P	V
		15660	50.06	-23.94	74	37.99	41.24	20.58	49.75	110	225	P	V
802.11n HT20 CH 48 5240MHz		10480	47.43	-26.57	74	42.02	38.49	17.32	50.4	149	289	P	H
		15720	50.42	-23.58	74	38.07	41.21	20.71	49.57	139	291	P	H
		10480	46.66	-27.34	74	41.25	38.49	17.32	50.4	149	289	P	V
		15720	49.41	-24.59	74	37.06	41.21	20.71	49.57	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		5149.25	58.76	-15.24	74	38.98	34.68	13.42	28.32	168	359	P	H
		5149.25	49.83	-4.17	54	30.05	34.68	13.42	28.32	168	359	A	H
	*	5190	94.07	-	-	74.23	34.72	13.51	28.39	168	359	P	H
	*	5190	86.07	-	-	66.23	34.72	13.51	28.39	168	359	A	H
		5416	56.66	-17.34	74	36.52	35	13.49	28.35	168	359	P	H
		5399.17	47.18	-6.82	54	27.06	34.98	13.49	28.35	168	359	A	H
		5122.25	57.19	-16.81	74	37.38	34.64	13.42	28.25	126	13	P	V
		5147.45	47.65	-6.35	54	27.87	34.68	13.42	28.32	126	13	A	V
	*	5190	87.73	-	-	67.89	34.72	13.51	28.39	126	13	P	V
	*	5190	79.07	-	-	59.23	34.72	13.51	28.39	126	13	A	V
		5377.06	56.7	-17.3	74	36.58	34.94	13.54	28.36	126	13	P	V
		5405.55	47.02	-6.98	54	26.9	34.98	13.49	28.35	126	13	A	V
802.11n HT40 CH 46 5230MHz		5078.9	57.3	-16.7	74	37.56	34.6	13.33	28.19	121	25	P	H
		5125.1	47.35	-6.65	54	27.56	34.66	13.42	28.29	121	25	A	H
	*	5230	93.75	-	-	73.79	34.78	13.59	28.41	121	25	P	H
	*	5230	84.56	-	-	64.6	34.78	13.59	28.41	121	25	A	H
		5428.76	56.8	-17.2	74	36.68	35.02	13.45	28.35	121	25	P	H
		5407.97	47.02	-6.98	54	26.9	34.98	13.49	28.35	121	25	A	H
		5057.15	57.28	-16.72	74	37.6	34.58	13.25	28.15	140	16	P	V
		5113.7	47.45	-6.55	54	27.73	34.64	13.33	28.25	140	16	A	V
	*	5230	88.06	-	-	68.1	34.78	13.59	28.41	140	16	P	V
	*	5230	80.33	-	-	60.37	34.78	13.59	28.41	140	16	A	V
		5402.14	57.22	-16.78	74	37.1	34.98	13.49	28.35	140	16	P	V
		5457.25	47.16	-6.84	54	27.02	35.04	13.45	28.35	140	16	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	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT40 CH 38 5190MHz		10380	44.91	-29.09	74	39.42	38.41	17.39	50.31	150	360	P	H
		15570	50.13	-23.87	74	38.52	41.27	20.31	49.97	100	360	P	H
		10380	45.39	-28.61	74	39.9	38.41	17.39	50.31	150	360	P	V
		15570	50.81	-23.19	74	39.2	41.27	20.31	49.97	100	360	P	V
802.11n HT40 CH 46 5230MHz		10460	46.44	-27.56	74	41.03	38.46	17.32	50.37	100	360	P	H
		15690	50.58	-23.42	74	38.31	41.22	20.71	49.66	100	225	P	H
		10460	45.89	-28.11	74	40.48	38.46	17.32	50.37	100	360	P	V
		15690	50.02	-23.98	74	37.75	41.22	20.71	49.66	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.				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		5090.75	57.45	-16.55	74	37.72	34.62	13.33	28.22	183	355	P	H
		5147.45	46.5	-7.5	54	26.72	34.68	13.42	28.32	183	355	A	H
	*	5260	98.74	-	-	78.64	34.82	13.68	28.4	183	355	P	H
	*	5260	90.35	-	-	70.25	34.82	13.68	28.4	183	355	A	H
		5456.04	56.65	-17.35	74	36.51	35.04	13.45	28.35	183	355	P	H
		5456.81	46.39	-7.61	54	26.25	35.04	13.45	28.35	183	355	A	H
		5046.05	56.89	-17.11	74	37.2	34.56	13.25	28.12	121	13	P	V
		5138.15	46.54	-7.46	54	26.75	34.66	13.42	28.29	121	13	A	V
	*	5260	91.62	-	-	71.52	34.82	13.68	28.4	121	13	P	V
	*	5260	83.21	-	-	63.11	34.82	13.68	28.4	121	13	A	V
		5411.6	57.64	-16.36	74	37.5	35	13.49	28.35	121	13	P	V
		5404.45	46.31	-7.69	54	26.19	34.98	13.49	28.35	121	13	A	V
802.11a CH 60 5300MHz		5115.35	56.73	-17.27	74	36.92	34.64	13.42	28.25	134	20	P	H
		5098.55	46.64	-7.36	54	26.91	34.62	13.33	28.22	134	20	A	H
	*	5300	98.51	-	-	78.41	34.86	13.63	28.39	134	20	P	H
	*	5300	89.36	-	-	69.26	34.86	13.63	28.39	134	20	A	H
		5448.23	56.83	-17.17	74	36.69	35.04	13.45	28.35	134	20	P	H
		5352.42	46.42	-7.58	54	26.33	34.92	13.54	28.37	134	20	A	H
		5104.55	57.61	-16.39	74	37.88	34.62	13.33	28.22	125	11	P	V
		5141	46.51	-7.49	54	26.73	34.68	13.42	28.32	125	11	A	V
	*	5300	92.49	-	-	72.39	34.86	13.63	28.39	125	11	P	V
	*	5300	84.14	-	-	64.04	34.86	13.63	28.39	125	11	A	V
		5395.98	57.54	-16.46	74	37.42	34.98	13.49	28.35	125	11	P	V
		5388.83	46.39	-7.61	54	26.3	34.96	13.49	28.36	125	11	A	V



802.11a CH 64 5320MHz	*	5320	99.49	-	-	79.4	34.88	13.59	28.38	151	16	P	H
	*	5320	90.21	-	-	70.12	34.88	13.59	28.38	151	16	A	H
		5366.06	57.67	-16.33	74	37.55	34.94	13.54	28.36	151	16	P	H
		5372.44	46.72	-7.28	54	26.6	34.94	13.54	28.36	151	16	A	H
	*	5320	94.11	-	-	74.02	34.88	13.59	28.38	125	10	P	V
	*	5320	84.81	-	-	64.72	34.88	13.59	28.38	125	10	A	V
		5392.24	57.5	-16.5	74	37.41	34.96	13.49	28.36	125	10	P	V
		5392.46	46.45	-7.55	54	26.36	34.96	13.49	28.36	125	10	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 802.11a (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 52 5260MHz		10520	48.74	-25.26	74	43.37	38.51	17.29	50.43	110	220	P	H
		15780	50.48	-23.52	74	37.97	41.19	20.75	49.43	109	345	P	H
		10520	46.85	-27.15	74	41.48	38.51	17.29	50.43	110	220	P	V
		15780	50.12	-23.88	74	37.61	41.19	20.75	49.43	109	345	P	V
802.11a CH 60 5300MHz		10600	48.05	-25.95	74	42.74	38.56	17.25	50.5	185	215	P	H
		15900	50.38	-23.62	74	37.86	41.14	20.5	49.12	196	190	P	H
		10600	48.58	-25.42	74	43.27	38.56	17.25	50.5	185	215	P	V
		15900	50.31	-23.69	74	37.79	41.14	20.5	49.12	196	190	P	V
802.11a CH 64 5320MHz		10640	47.61	-26.39	74	42.32	38.58	17.23	50.52	152	135	P	H
		15960	50.54	-23.46	74	38.04	41.11	20.33	48.94	173	245	P	H
		10640	47.3	-26.7	74	42.01	38.58	17.23	50.52	152	135	P	V
		15960	49.39	-24.61	74	36.89	41.11	20.33	48.94	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		5069.75	57.07	-16.93	74	37.39	34.58	13.25	28.15	116	358	P	H
		5141.75	46.49	-7.51	54	26.71	34.68	13.42	28.32	116	358	A	H
	*	5260	97.59	-	-	77.49	34.82	13.68	28.4	116	358	P	H
	*	5260	88.94	-	-	68.84	34.82	13.68	28.4	116	358	A	H
		5446.14	57.55	-16.45	74	37.41	35.04	13.45	28.35	116	358	P	H
		5385.09	46.46	-7.54	54	26.32	34.96	13.54	28.36	116	358	A	H
		5062.7	57.52	-16.48	74	37.84	34.58	13.25	28.15	121	14	P	V
		5095.85	46.58	-7.42	54	26.85	34.62	13.33	28.22	121	14	A	V
	*	5260	92.41	-	-	72.31	34.82	13.68	28.4	121	14	P	V
	*	5260	83.23	-	-	63.13	34.82	13.68	28.4	121	14	A	V
		5443.61	57.7	-16.3	74	37.58	35.02	13.45	28.35	121	14	P	V
		5456.81	46.48	-7.52	54	26.34	35.04	13.45	28.35	121	14	A	V
802.11n HT20 CH 60 5300MHz		5012.45	56.85	-17.15	74	37.22	34.52	13.16	28.05	132	22	P	H
		5141.15	46.49	-7.51	54	26.71	34.68	13.42	28.32	132	22	A	H
	*	5300	97.48	-	-	77.38	34.86	13.63	28.39	132	22	P	H
	*	5300	89	-	-	68.9	34.86	13.63	28.39	132	22	A	H
		5365.95	57.05	-16.95	74	36.93	34.94	13.54	28.36	132	22	P	H
		5351.43	46.55	-7.45	54	26.46	34.92	13.54	28.37	132	22	A	H
		5126.75	57.08	-16.92	74	37.29	34.66	13.42	28.29	120	9	P	V
		5143.85	46.5	-7.5	54	26.72	34.68	13.42	28.32	120	9	A	V
	*	5300	93.31	-	-	73.21	34.86	13.63	28.39	120	9	P	V
	*	5300	84.31	-	-	64.21	34.86	13.63	28.39	120	9	A	V
		5455.93	57.54	-16.46	74	37.4	35.04	13.45	28.35	120	9	P	V
		5451.86	46.43	-7.57	54	26.29	35.04	13.45	28.35	120	9	A	V



802.11n HT20 CH 64 5320MHz	*	5320	98.02	-	-	77.93	34.88	13.59	28.38	130	25	P	H
	*	5320	89.62	-	-	69.53	34.88	13.59	28.38	130	25	A	H
		5386.08	57.74	-16.26	74	37.6	34.96	13.54	28.36	130	25	P	H
		5371.78	46.8	-7.2	54	26.68	34.94	13.54	28.36	130	25	A	H
	*	5320	90.78	-	-	70.69	34.88	13.59	28.38	132	25	P	V
	*	5320	82.11	-	-	62.02	34.88	13.59	28.38	132	25	A	V
		5430.63	56.68	-17.32	74	36.56	35.02	13.45	28.35	132	25	P	V
		5380.69	46.48	-7.52	54	26.34	34.96	13.54	28.36	132	25	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	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 52 5260MHz		10520	46	-28	74	40.63	38.51	17.29	50.43	110	220	P	H
		15780	50.73	-23.27	74	38.22	41.19	20.75	49.43	109	345	P	H
		10520	46.07	-27.93	74	40.7	38.51	17.29	50.43	110	220	P	V
		15780	50.5	-23.5	74	37.99	41.19	20.75	49.43	109	345	P	V
802.11n HT20 CH 60 5300MHz		10600	46.72	-27.28	74	41.41	38.56	17.25	50.5	185	215	P	H
		15900	50.03	-23.97	74	37.51	41.14	20.5	49.12	196	190	P	H
		10600	46.11	-27.89	74	40.8	38.56	17.25	50.5	185	215	P	V
		15900	50.05	-23.95	74	37.53	41.14	20.5	49.12	196	190	P	V
802.11n HT20 CH 64 5320MHz		10640	45.63	-28.37	74	40.34	38.58	17.23	50.52	152	135	P	H
		15960	49.78	-24.22	74	37.28	41.11	20.33	48.94	173	245	P	H
		10640	47.02	-26.98	74	41.73	38.58	17.23	50.52	152	135	P	V
		15960	50.58	-23.42	74	38.08	41.11	20.33	48.94	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		5098.55	58.28	-15.72	74	38.55	34.62	13.33	28.22	200	25	P	H
		5140.4	47.29	-6.71	54	27.51	34.68	13.42	28.32	200	25	A	H
	*	5270	93.15	-	-	73.05	34.82	13.68	28.4	200	25	P	H
	*	5270	84.62	-	-	64.52	34.82	13.68	28.4	200	25	A	H
		5432.5	56.64	-17.36	74	36.52	35.02	13.45	28.35	200	25	P	H
		5404.89	47.12	-6.88	54	27	34.98	13.49	28.35	200	25	A	H
		5021.3	56.69	-17.31	74	37.08	34.54	13.16	28.09	140	16	P	V
		5135.45	47.27	-6.73	54	27.48	34.66	13.42	28.29	140	16	A	V
	*	5270	89.32	-	-	69.22	34.82	13.68	28.4	140	16	P	V
	*	5270	80.69	-	-	60.59	34.82	13.68	28.4	140	16	A	V
		5374.31	56.79	-17.21	74	36.67	34.94	13.54	28.36	140	16	P	V
		5364.41	47.65	-6.35	54	27.53	34.94	13.54	28.36	140	16	A	V
802.11n HT40 CH 62 5310MHz		5082.05	57.4	-16.6	74	37.66	34.6	13.33	28.19	200	25	P	H
		5114.6	47.42	-6.58	54	27.61	34.64	13.42	28.25	200	25	A	H
	*	5310	93.63	-	-	73.54	34.88	13.59	28.38	200	25	P	H
	*	5310	84.95	-	-	64.86	34.88	13.59	28.38	200	25	A	H
		5350.44	58.38	-15.62	74	38.29	34.92	13.54	28.37	200	25	P	H
		5351.87	48.04	-5.96	54	27.95	34.92	13.54	28.37	200	25	A	H
		5124.05	57.49	-16.51	74	37.7	34.66	13.42	28.29	140	16	P	V
		5133.5	47.08	-6.92	54	27.29	34.66	13.42	28.29	140	16	A	V
	*	5310	86.24	-	-	66.15	34.88	13.59	28.38	140	16	P	V
	*	5310	77.86	-	-	57.77	34.88	13.59	28.38	140	16	A	V
		5413.8	57.57	-16.43	74	37.43	35	13.49	28.35	140	16	P	V
		5448.56	47.33	-6.67	54	27.19	35.04	13.45	28.35	140	16	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	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT40 CH 54 5270MHz		10540	46.86	-27.14	74	41.52	38.52	17.27	50.45	110	220	P	H
		15810	50.73	-23.27	74	38.22	41.18	20.67	49.34	109	345	P	H
		10540	46.91	-27.09	74	41.57	38.52	17.27	50.45	110	220	P	V
		15810	50.62	-23.38	74	38.11	41.18	20.67	49.34	109	345	P	V
802.11n HT40 CH 62 5310MHz		10620	47.62	-26.38	74	42.33	38.57	17.23	50.51	100	220	P	H
		15930	50.08	-23.92	74	37.57	41.13	20.41	49.03	100	100	P	H
		10620	47.1	-26.9	74	41.81	38.57	17.23	50.51	100	220	P	V
		15930	50.49	-23.51	74	37.98	41.13	20.41	49.03	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.				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		69.77	25.59	-14.41	40	41.62	8.6	1.27	25.9	175	158	P	H
		191.02	21.31	-22.19	43.5	32.89	11.56	2.16	25.3			P	H
		397.63	22.68	-23.32	46	29.93	15.37	3.18	25.8			P	H
		570.29	25.4	-20.6	46	28.36	19.61	3.84	26.41			P	H
		756.53	28.82	-17.18	46	29.06	21.54	4.48	26.26			P	H
		903	28.73	-17.27	46	28.1	21.59	4.89	25.85			P	H
		62.01	29.21	-10.79	40	45.42	8.52	1.2	25.93	162	268	P	V
		219.15	19.76	-26.24	46	30.75	11.91	2.31	25.21			P	V
		377.26	20.65	-25.35	46	28.09	15.11	3.09	25.64			P	V
		515	24.45	-21.55	46	27.71	19.44	3.65	26.35			P	V
		741.98	27.32	-18.68	46	27.91	21.22	4.48	26.29			P	V
		906.88	28.35	-17.65	46	27.7	21.57	4.9	25.82			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 per 15.209(c).
!	Test result is over limit line.
P/A	P eak or A verage
H/V	H orizontal or V ertical



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

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

1. Level(dBμV/m) =

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

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

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

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