

# FCC RF Test Report

**APPLICANT** : ZTE CORPORATION  
**EQUIPMENT** : WCDMA Digital Mobile Handset  
**BRAND NAME** : ZTE  
**MODEL NAME** : ZTE V6500  
**FCC ID** : Q78-V6500  
**STANDARD** : FCC Part 15 Subpart C §15.247  
**CLASSIFICATION** : (DTS) Digital Transmission System

The product was received on Jun. 28, 2012 and completely tested on Jul. 26, 2012. We, SPORTON INTERNATIONAL (KUNSHAN) INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and shown the compliance with the applicable technical standards.

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

Reviewed by:



Jones Tsai / Manager



**SPORTON INTERNATIONAL (KUNSHAN) INC.**  
**No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C.**



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### SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	A8.2(a)	6dB Bandwidth	$\geq 0.5\text{MHz}$	Pass	-
3.2	15.247(b)	A8.4	Power Output Measurement	$\leq 30\text{dBm}$	Pass	-
3.3	15.247(e)	A8.2(b)	Power Spectral Density	$\leq 8\text{dBm}/3\text{kHz}$	Pass	-
3.4	15.247(d)	A8.5	Conducted Band Edges	$\leq 20\text{dBc}$	Pass	-
			Conducted Spurious Emission		Pass	-
3.5	15.247(d)	A8.5	Radiated Band Edges	15.209(a) & 15.247(d)	Pass	-
			Radiated Spurious Emission		Pass	Under limit 9.26 dB at 245.951 MHz
3.6	15.207	Gen 7.2.4	AC Conducted Emission	15.207(a)	Pass	Under limit 11.11 dB at 1.840 MHz
3.7	15.203 & 15.247(b)	A8.4	Antenna Requirement	N/A	Pass	-

# 1 General Description

## 1.1 Applicant

**ZTE CORPORATION**

ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, P.R.China

## 1.2 Manufacturer

**ZTE CORPORATION**

ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, P.R.China

## 1.3 Feature of Equipment Under Test

Product Feature	
<b>Equipment</b>	WCDMA Digital Mobile Handset
<b>Brand Name</b>	ZTE
<b>Model Name</b>	ZTE V6500
<b>FCC ID</b>	Q78-V6500
<b>EUT supports Radios application</b>	GSM/EGPRS/WCDMA/HSPA/WLAN 11bg/Bluetooth
<b>HW Version</b>	QB7225_01A_V1BMB_A
<b>SW Version</b>	V6500_Z0_CN_PSGDF14300002
<b>EUT Stage</b>	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.

Product Specification subjective to this standard	
<b>Tx/Rx Frequency Range</b>	2412 MHz ~ 2462 MHz
<b>Number of Channels</b>	11
<b>Carrier Frequency of Each Channel</b>	2412+(n-1)*5 MHz; n=1~11
<b>Maximum Output Power to Antenna</b>	802.11b : 16.65 dBm (0.046 W) 802.11g : 21.31 dBm (0.135 W)
<b>Antenna Type</b>	PIFA Antenna with gain 0 dBi
<b>Type of Modulation</b>	802.11b : DSSS (BPSK / QPSK / CCK) 802.11g : OFDM (BPSK / QPSK / 16QAM / 64QAM)

### 1.4 Testing Site

<b>Test Site</b>	SPORTON INTERNATIONAL (KUNSHAN) INC.			
<b>Test Site Location</b>	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C. TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958			
<b>Test Site No.</b>	<b>Sporton Site No.</b>			<b>FCC/IC Registration No.</b>
	TH01-KS	CO01-KS	03CH01-KS	149928/4086E-1

### 1.5 Applied Standards

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

- ♦ FCC Part 15 Subpart C §15.247
- ♦ FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v01
- ♦ FCC TCB Workshop 2012, April
- ♦ ANSI C63.4-2003 and ANSI C63.10-2009
- ♦ IC RSS-210 Issue 8
- ♦ IC RSS-Gen Issue 3

**Remark:**

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

### 1.6 Ancillary Equipment List

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	DC Power Supply	GWINSTEK	GPS-3030D	N/A	N/A	Unshielded, 1.8 m
3.	WLAN AP	D-Link	DIR-855	KA2DIR855A2	N/A	Unshielded, 1.8 m
4.	Bluetooth Earphone	Nokia	BH-106	QTLBH-106	N/A	N/A

## 2 Test Configuration of Equipment Under Test

### 2.1 Carrier Frequency Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
2400-2483.5 MHz	1	2412	7	2442
	2	2417	8	2447
	3	2422	9	2452
	4	2427	10	2457
	5	2432	11	2462
	6	2437	-	-

### 2.2 Pre-Scanned RF Power

Preliminary tests were performed in different data rate as below table and the highest power data rates (11b and 11g modes) were chosen for full test in the following sections to demonstrate compliance to the FCC limit line.

2.4GHz 802.11b mode				
Data Rate (MHz)	1M bps	2M bps	5.5M bps	11M bps
Peak Power (dBm)	16.65	16.49	16.37	16.56

2.4GHz 802.11g mode								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Peak Power (dBm)	20.81	20.31	20.28	19.98	20.81	20.65	21.31	20.71

### 2.3 Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and ANSI C63.10-2009 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), radiated emission (30 MHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

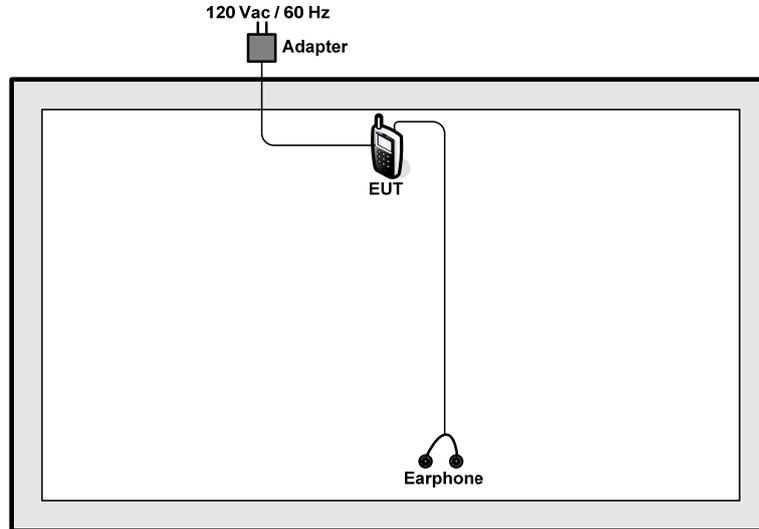
Pre-scanned tests, X, Y, Z in three orthogonal panels, were conducted to determine the final configuration from all possible combinations.

The following tables are showing the test modes as the worst cases (Y plane) and recorded in this report.

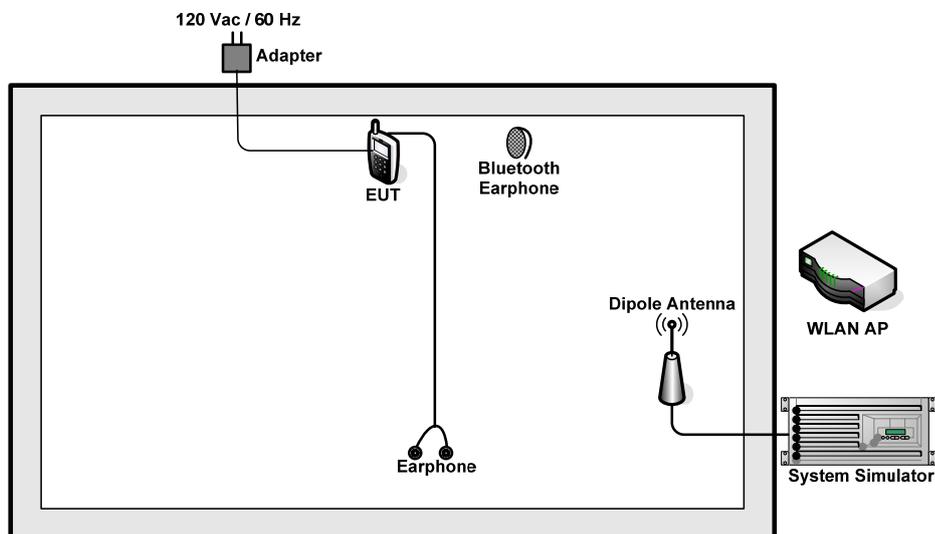
Test Cases			
Test Item	802.11b (Modulation : DSSS)		
	802.11g (Modulation : OFDM)		
Conducted TCs	Test Mode	802.11b	802.11g
	CH01	1	4
	CH06	2	5
	CH11	3	6
Radiated TCs	Test Mode	802.11b	802.11g
	CH01	1	4
	CH06	2	5
	CH11	3	6
AC Conducted Emission	Mode 1 : GSM850 Idle + Bluetooth Link + WLAN Link + Adpater + Earphone + Camera		

## 2.4 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



## 2.5 RF Utility

For WLAN function, execute "ADB" to make the EUT contact with WLAN AP for continuous transmitting and receiving signals.

### 3 Test Result

#### 3.1 6dB Bandwidth Measurement

##### 3.1.1 Limit of 6dB Bandwidth

The minimum 6 dB bandwidth shall be at least 500 KHz.

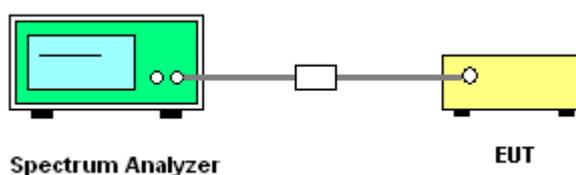
##### 3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

##### 3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance and TCB Workshop 2012, April.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable. The path loss was compensated to the results for each measurement.
3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 1-5% of the emission bandwidth (EBW). Set the Video bandwidth (VBW)  $\geq 3 * RBW$ . In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 KHz.
4. The marker-delta reading at this point is the 6 dB bandwidth of the emission.

##### 3.1.4 Test Setup



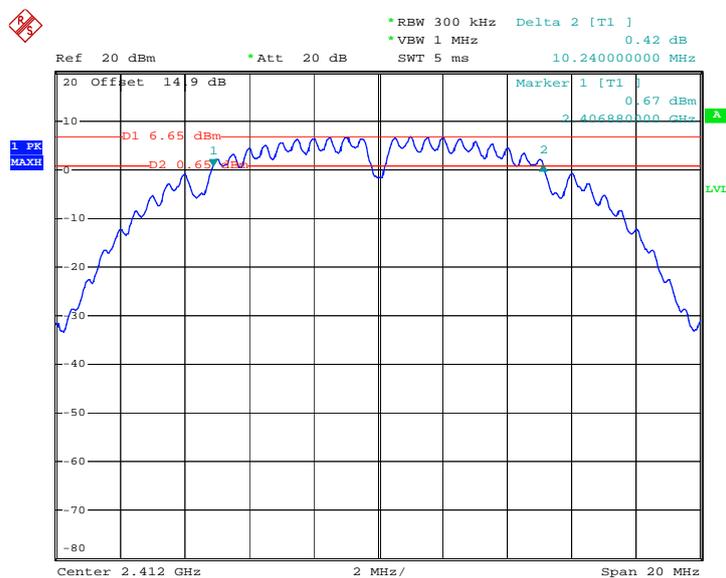


3.1.5 Test Result of 6dB Bandwidth

Test Mode :	802.11b	Temperature :	23~24°C
Test Engineer :	Zhi Lu	Relative Humidity :	47~48%

Channel	Frequency (MHz)	802.11b 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	10.24	0.5	Pass
06	2437	10.24	0.5	Pass
11	2462	10.28	0.5	Pass

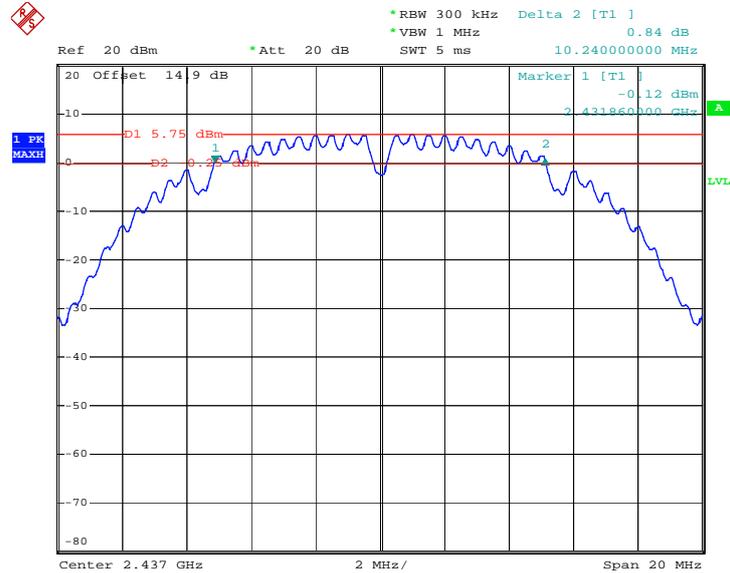
6 dB Bandwidth Plot on 802.11b Channel 01



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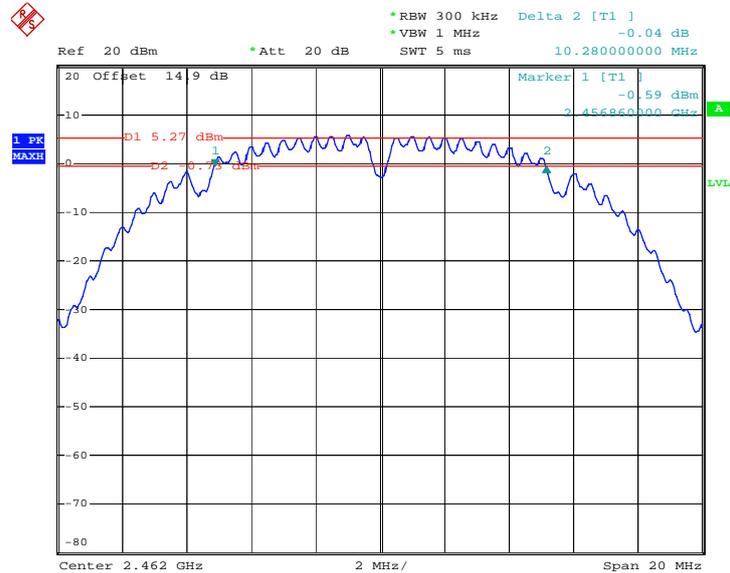


### 6 dB Bandwidth Plot on 802.11b Channel 06



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### 6 dB Bandwidth Plot on 802.11b Channel 11



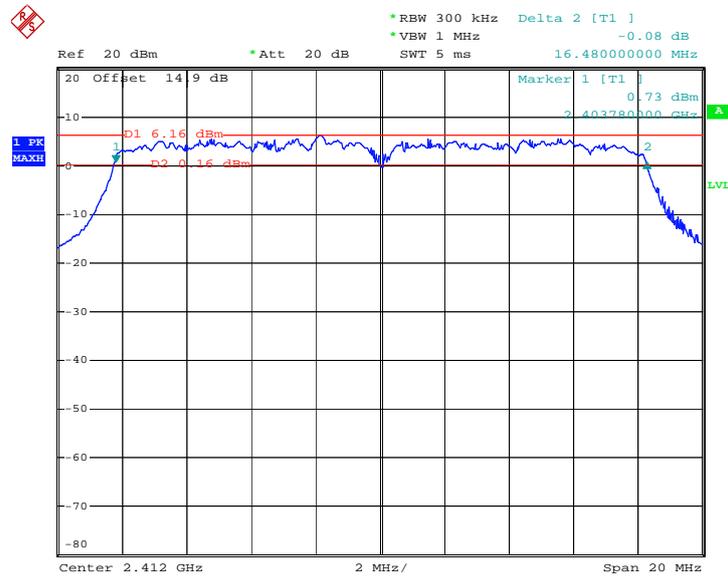
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Test Mode :	802.11g	Temperature :	23~24°C
Test Engineer :	Zhi Lu	Relative Humidity :	47~48%

Channel	Frequency (MHz)	802.11g 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	16.48	0.5	Pass
06	2437	16.52	0.5	Pass
11	2462	16.48	0.5	Pass

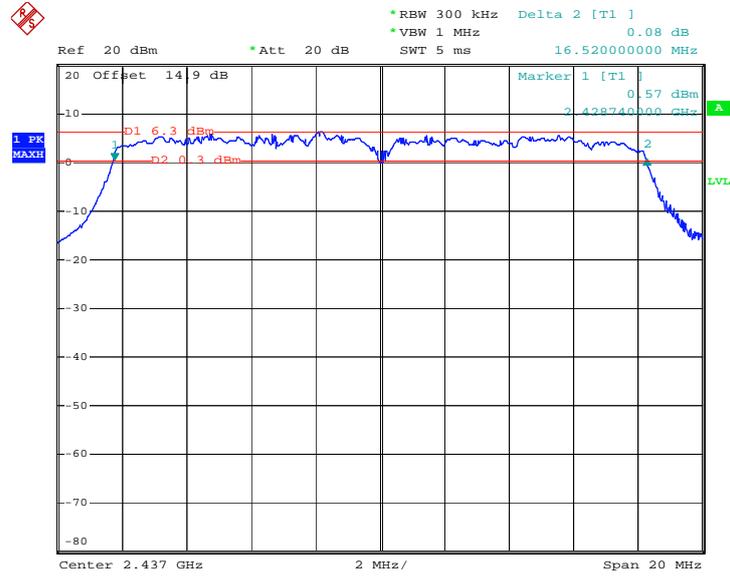
6 dB Bandwidth Plot on 802.11g Channel 01



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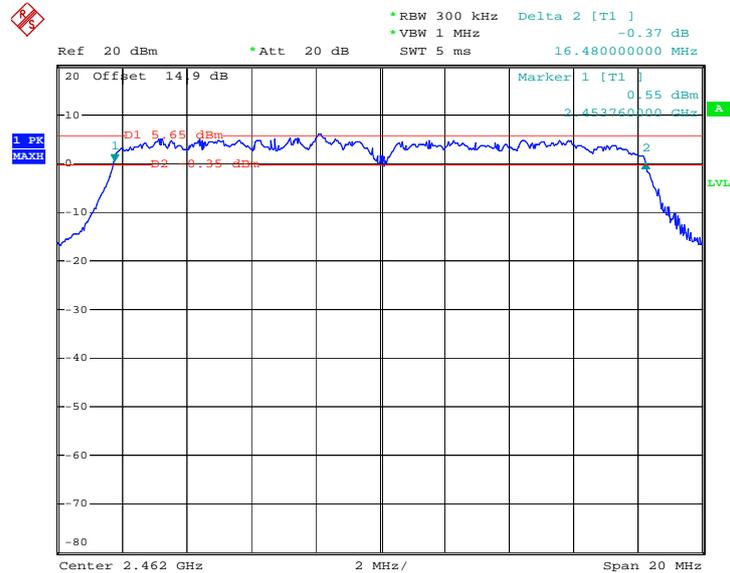


### 6 dB Bandwidth Plot on 802.11g Channel 06



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### 6 dB Bandwidth Plot on 802.11g Channel 11



Date: 24.JUL.2012 10:02:55

## 3.2 Output Power Measurement

### 3.2.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5MHz and 5725-5850MHz, the limit for peak output power is 30dBm. If transmitting Antenna of directional gain greater than 6dBi are used the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the Antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the Antenna exceeds 6dBi.

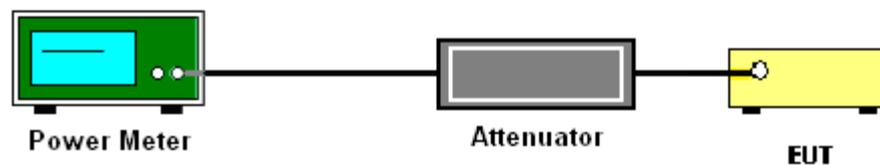
### 3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

### 3.2.3 Test Procedures

1. The testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance and TCB Workshop 2012, April.
2. The RF output of EUT was connected to the power meter by a low loss cable
3. Measure the power by power meter.

### 3.2.4 Test Setup





3.2.5 Test Result of Peak Output Power

Test Mode :	802.11b	Temperature :	23~24°C
Test Engineer :	Zhi Lu	Relative Humidity :	47~48%

Channel	Frequency (MHz)	802.11b Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	16.65	30	Pass
06	2437	16.56	30	Pass
11	2462	16.11	30	Pass

Test Mode :	802.11g	Temperature :	23~24°C
Test Engineer :	Zhi Lu	Relative Humidity :	47~48%

Channel	Frequency (MHz)	802.11g Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	21.26	30	Pass
06	2437	21.31	30	Pass
11	2462	21.28	30	Pass



3.2.6 Test Result of Average output Power (Reporting Only)

Test Mode :	802.11b	Temperature :	23~24°C
Test Engineer :	Zhi Lu	Relative Humidity :	47~48%
Duty Cycle:	100%	Duty Factor:	0.00dB

Channel	Frequency (MHz)	802.11b Average Output Power (dBm)
01	2412	14.43
06	2437	14.13
11	2462	13.71

Test Mode :	802.11g	Temperature :	23~24°C
Test Engineer :	Zhi Lu	Relative Humidity :	47~48%
Duty Cycle:	89.68%	Duty Factor:	0.47dB

Channel	Frequency (MHz)	802.11g Average Output Power (dBm)
01	2412	12.56
06	2437	12.70
11	2462	12.43

### 3.3 Power Spectral Density Measurement

#### 3.3.1 Limit of Power Spectral Density

The peak power spectral density shall not be greater than 8dBm in any 3KHz band at any time interval of continuous transmission.

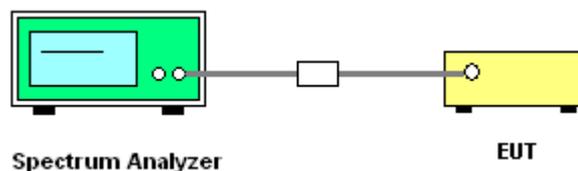
#### 3.3.2 Measuring Instruments

See list of measuring instruments of this test report.

#### 3.3.3 Test Procedures

1. The testing follows Measurement Procedure 5.3.1 (Peak PSD) of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance and TCB Workshop 2012, April.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable. The path loss was compensated to the results for each measurement.
3. Record the measurement data derived from spectrum analyzer.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 KHz. Video bandwidth (VBW)  $\geq$  300 KHz In order to make an accurate measurement, set the span to 5-30% greater than Emission Bandwidth (EBW)
5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.
6. Scale the observed power level to an equivalent value in 3 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where  $BWCF = 10\log(3\text{ kHz}/100\text{ kHz} = -15.2\text{ dB})$ .

#### 3.3.4 Test Setup



### 3.3.5 Test Result of Power Spectral Density

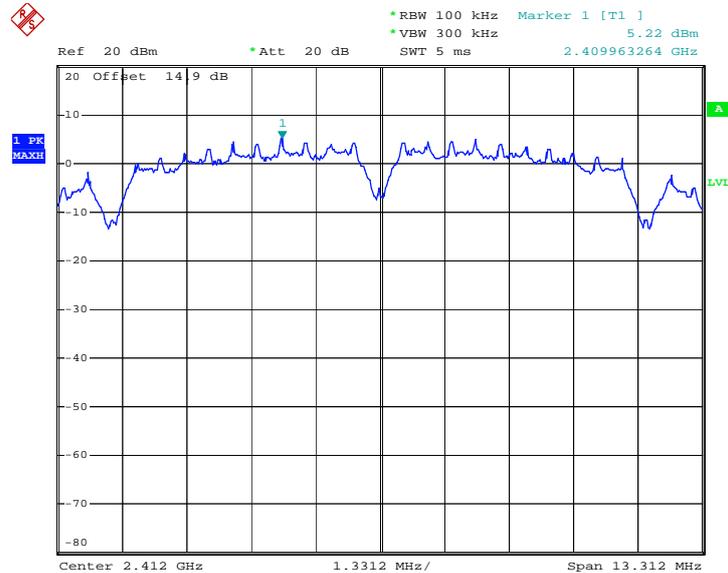
Test Mode :	802.11b	Temperature :	23~24°C
Test Engineer :	Zhi Lu	Relative Humidity :	47~48%

Channel	Frequency (MHz)	802.11b Power Density		Max. Limits (dBm)	Pass/Fail
		Measured PSD/100KHz (dBm)	PSD/3KHz (dBm)		
01	2412	5.22	-9.98	8	Pass
06	2437	4.36	-10.84	8	Pass
11	2462	4.37	-10.83	8	Pass

**Note:**

1. Measured power density (dBm) has offset with cable loss.
2. BWCF (dB) =  $10 \log (3k/100k) = -15.2 \text{ dB}$
3. Power Density/ 3kHz (dBm) = Measured power density/ 100KHz (dBm) + BWCF (dB)

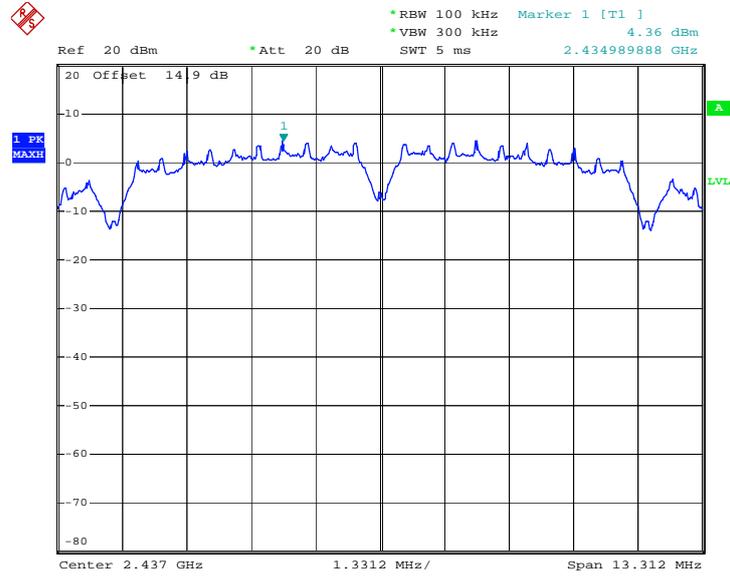
**PSD Plot on 802.11b Channel 01**



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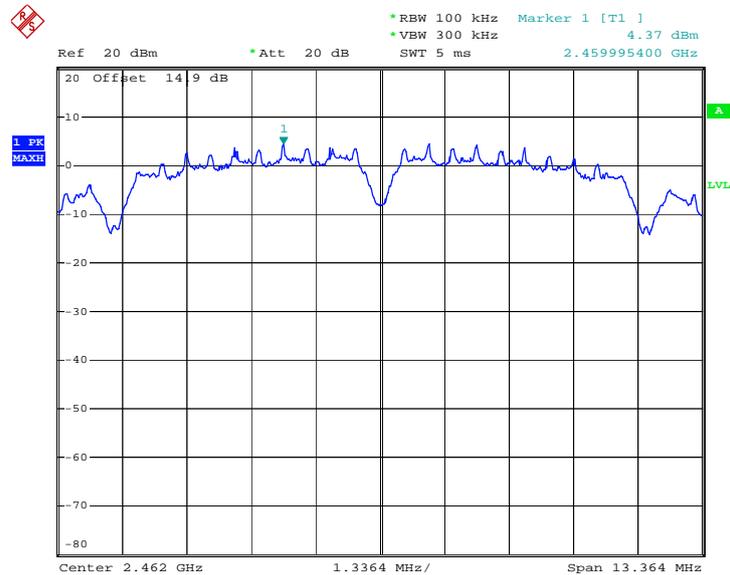


PSD Plot on 802.11b Channel 06



Date: 24.JUL.2012 09:36:09

PSD Plot on 802.11b Channel 11



Date: 24.JUL.2012 09:40:59



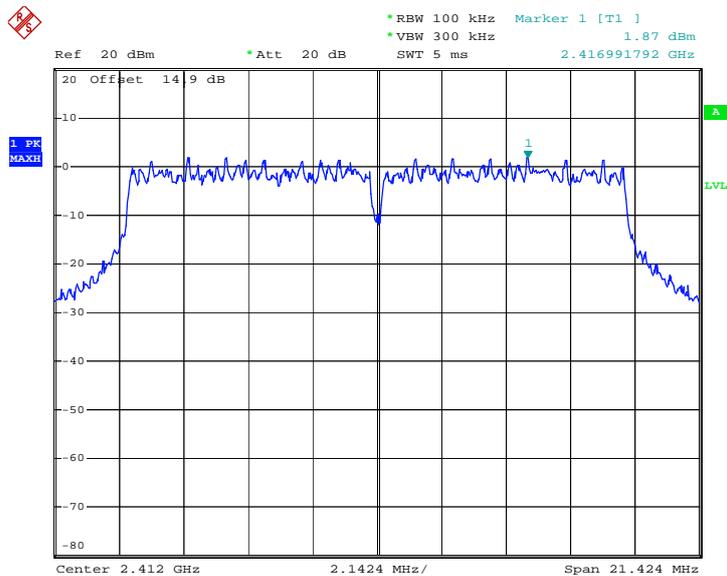
Test Mode :	802.11g	Temperature :	23~24°C
Test Engineer :	Zhi Lu	Relative Humidity :	47~48%

Channel	Frequency (MHz)	802.11g Power Density		Max. Limits (dBm)	Pass/Fail
		Measured PSD/100KHz (dBm)	PSD/3KHz (dBm)		
01	2412	1.87	-13.33	8	Pass
06	2437	2.02	-13.18	8	Pass
11	2462	1.64	-13.56	8	Pass

Note:

1. Measured power density (dBm) has offset with cable loss.
2. BWCF (dB) =  $10 \log (3k/100k) = -15.2 \text{ dB}$
3. Power Density/ 3KHz (dBm)= Measured power density/ 100KHz (dBm) + BWCF (dB)

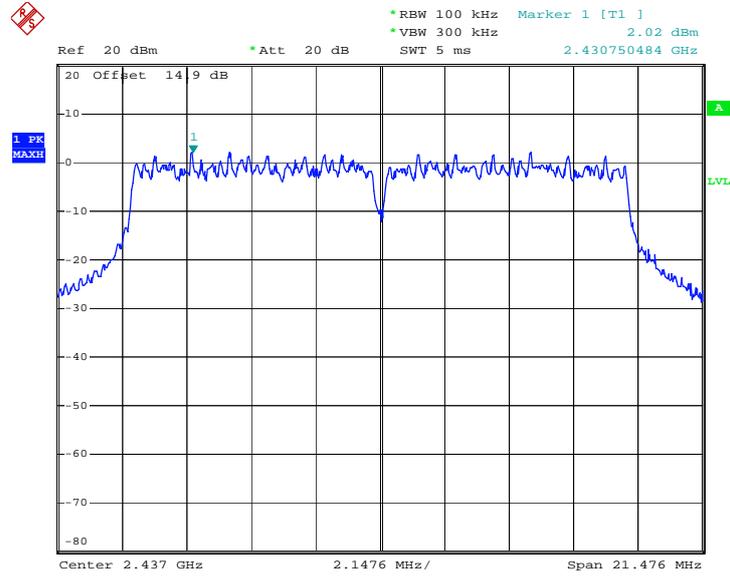
PSD Plot on 802.11g Channel 01



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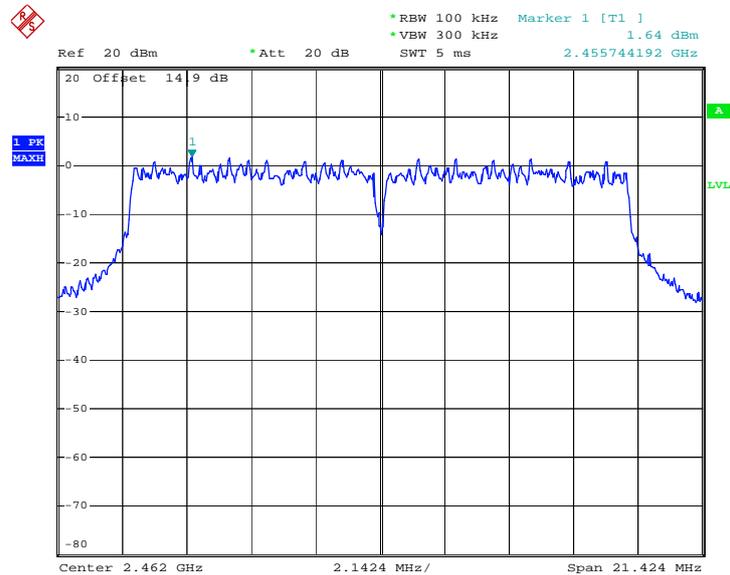


PSD Plot on 802.11g Channel 06



Date: 24.JUL.2012 09:56:48

PSD Plot on 802.11g Channel 11



Date: 24.JUL.2012 10:03:15

### 3.4 Conducted Band Edges and Spurious Emission Measurement

#### 3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

In any 100 kHz bandwidth outside of the authorized frequency band, the emissions which fall in the non-restricted bands shall be attenuated at least 20 dB / 30dB relative to the maximum PSD level in 100 kHz by RF conducted measurement and radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

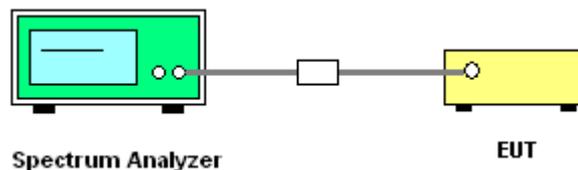
#### 3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

#### 3.4.3 Test Procedures

1. The testing follows the guidelines in the Measurement Procedure of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance and TCB Workshop 2012, April.
2. Set RBW = 100 KHz, VBW=300 KHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz, when maximum peak conducted output power procedure is used. The attenuation is set to 30dB, when maximum conducted output power procedure is used.

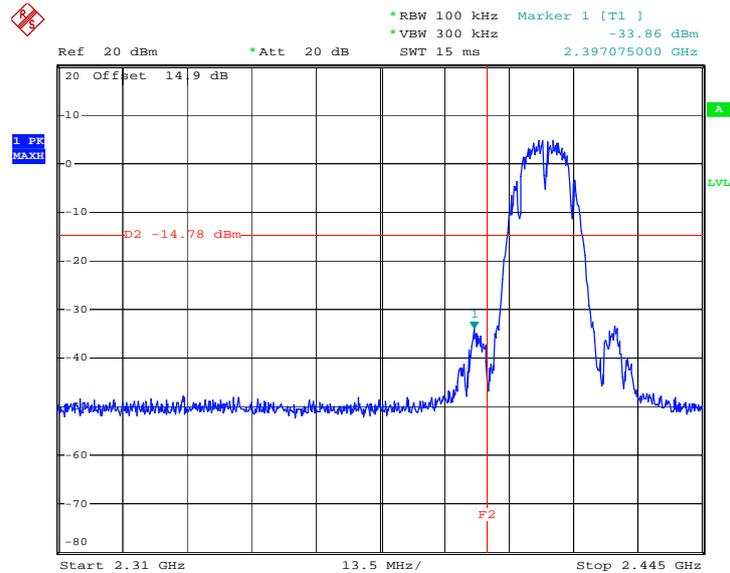
#### 3.4.4 Test Setup



### 3.4.5 Test Plots of Conducted Band Edges

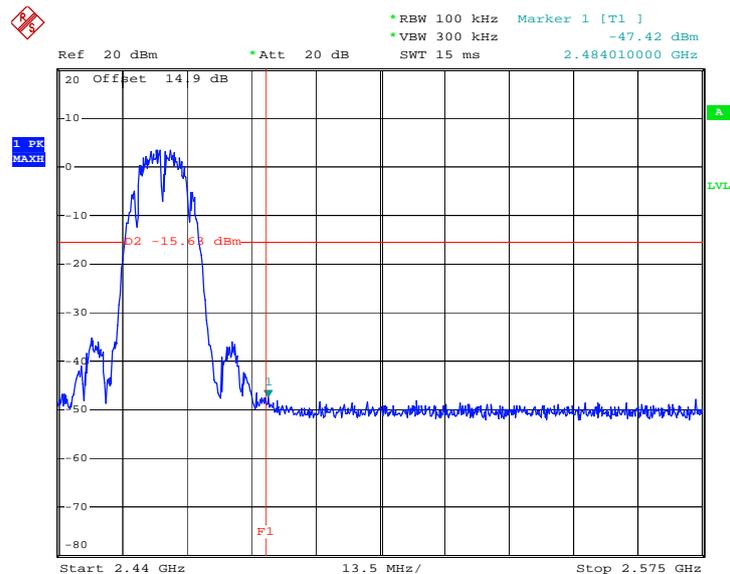
Test Mode :	802.11b	Temperature :	23~24°C
Test Band :	Low and High	Relative Humidity :	47~48%
Test Channel :	01 and 11	Test Engineer :	Zhi Lu

Low Band Edge Plot on 802.11b Channel 01



Date: 24.JUL.2012 09:26:50

High Band Edge Plot on 802.11b Channel 11

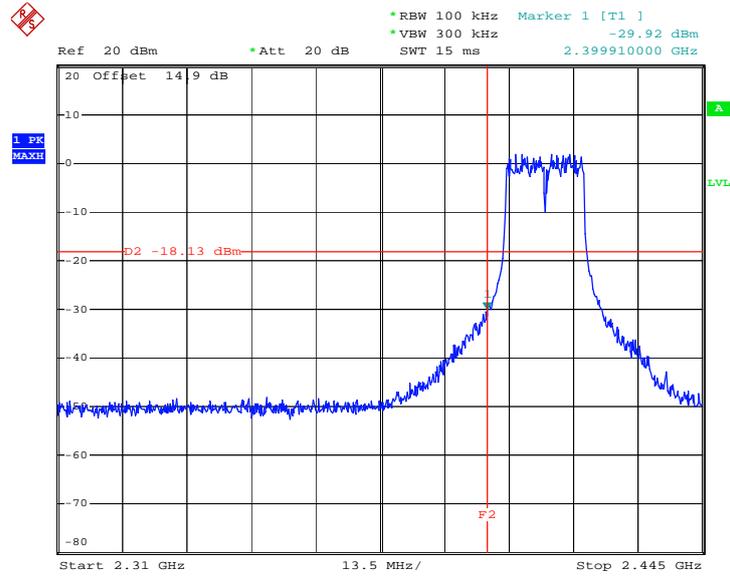


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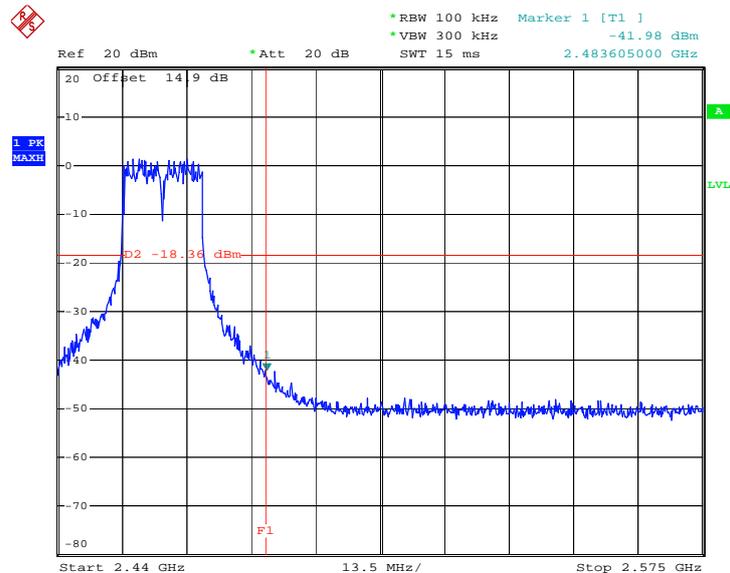
Test Mode :	802.11g	Temperature :	23~24°C
Test Band :	Low and High	Relative Humidity :	47~48%
Test Channel :	01 and 11	Test Engineer :	Zhi Lu

Low Band Edge Plot on 802.11g Channel 01



Date: 24.JUL.2012 09:51:27

High Band Edge Plot on 802.11g Channel 11



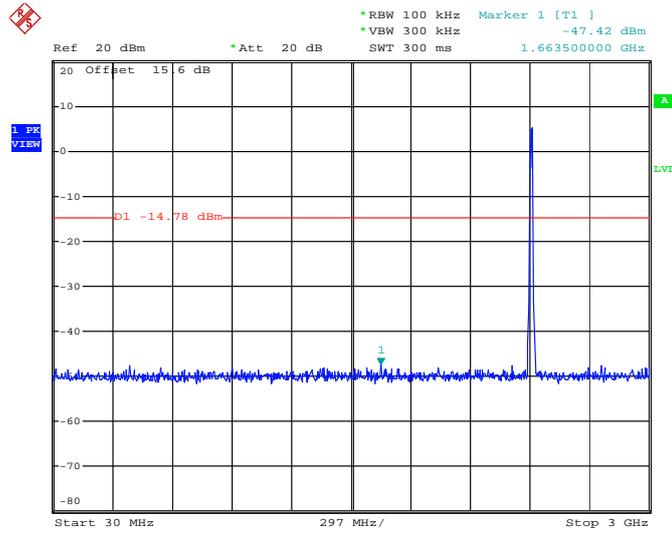
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### 3.4.6 Test Plots of Spurious Emission

Test Mode :	802.11b	Temperature :	23~24°C
Test Band :	30MHz-3GHz and 2G-25GHz	Relative Humidity :	47~48%
Test Channel :	01, 06, 11	Test Engineer :	Zhi Lu

#### 802.11b 30 MHz~3 GHz

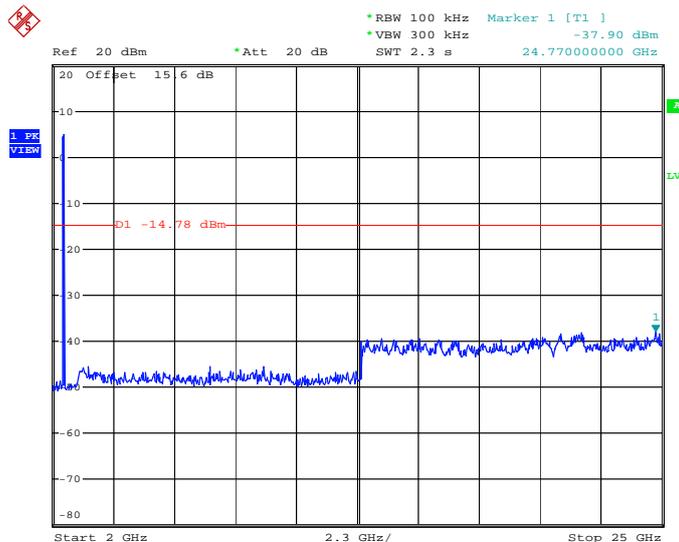
##### Conducted Spurious Emission Plot on Channel 01



Date: 24.JUL.2012 09:29:05

#### 802.11b 2 GHz~25 GHz

##### Conducted Spurious Emission Plot on Channel 01

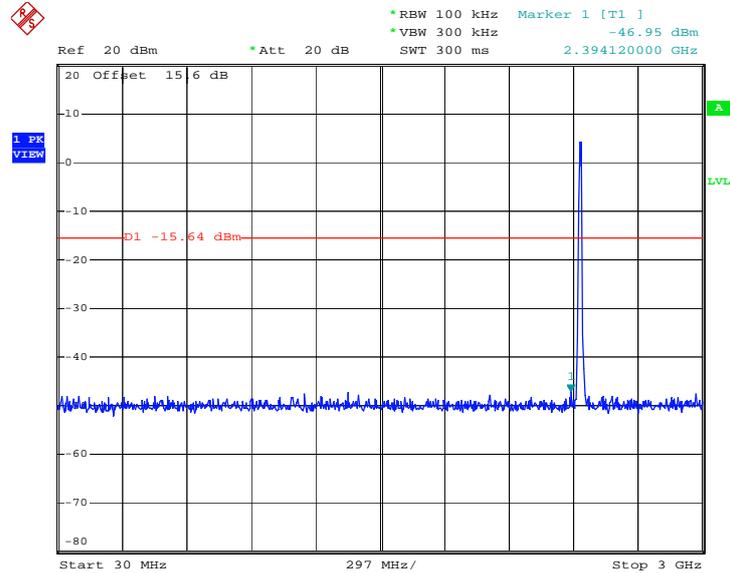


Date: 24.JUL.2012 09:29:24



802.11b 30 MHz~3 GHz

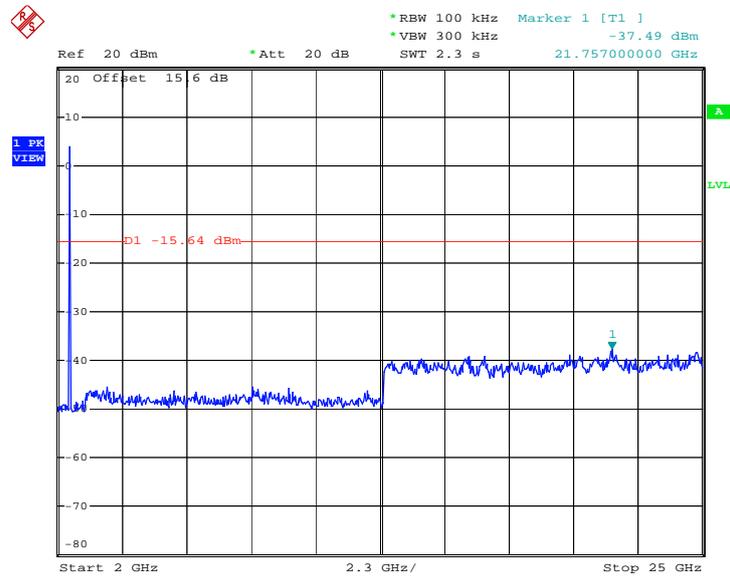
Conducted Spurious Emission Plot on Channel 06



Date: 24.JUL.2012 09:36:48

802.11b 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 06

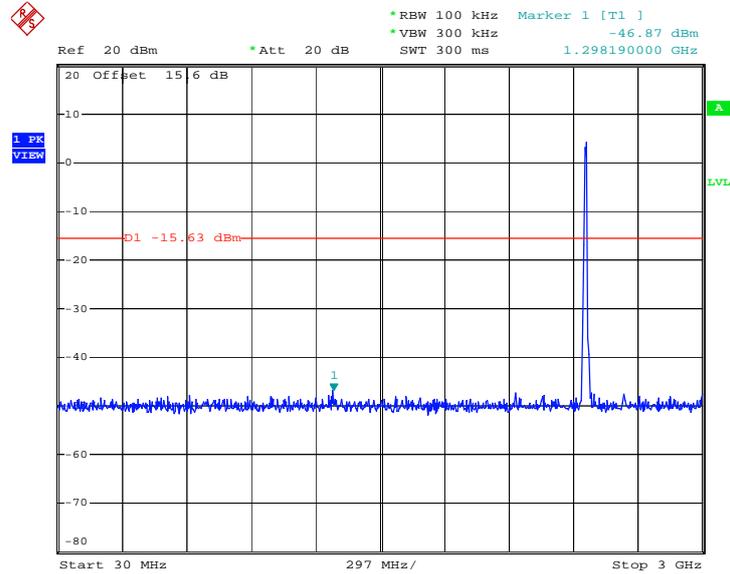


Date: 24.JUL.2012 09:37:06



802.11b 30 MHz~3 GHz

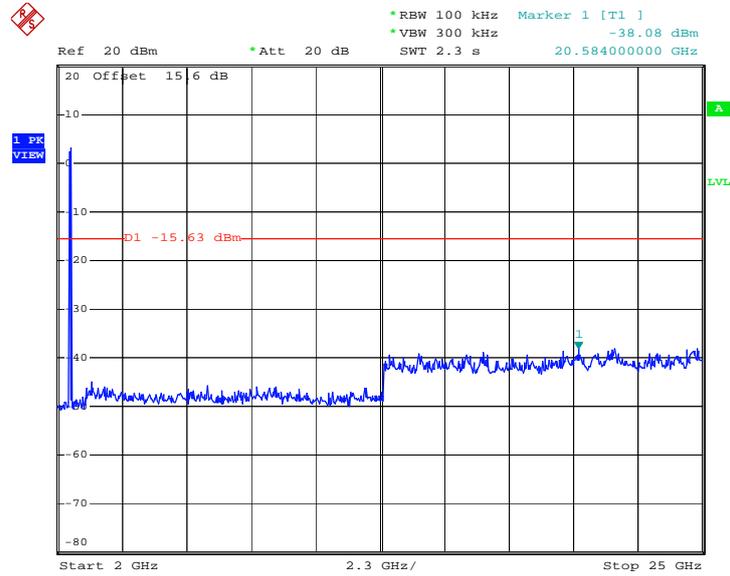
Conducted Spurious Emission Plot on Channel 11



Date: 24.JUL.2012 09:42:04

802.11b 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 11



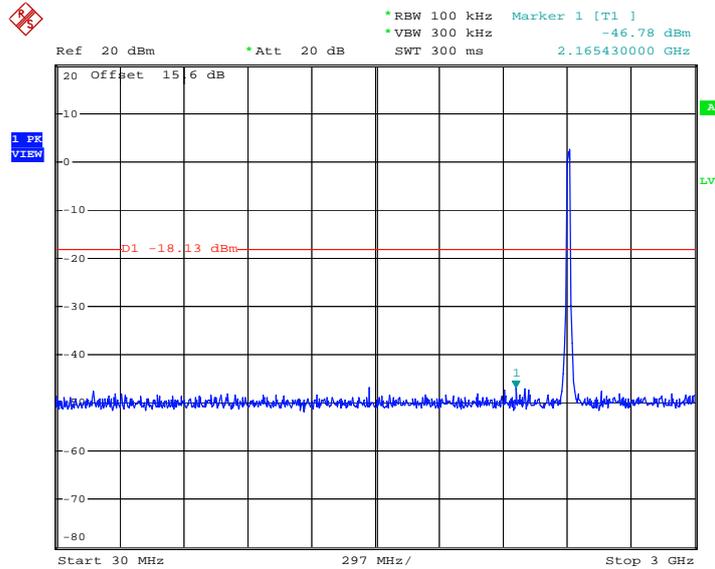
Date: 24.JUL.2012 09:42:23



Test Mode :	802.11g	Temperature :	23~24°C
Test Band :	30MHz-3GHz and 2G-25GHz	Relative Humidity :	47~48%
Test Channel :	01, 06, 11	Test Engineer :	Zhi Lu

802.11g 30 MHz~3 GHz

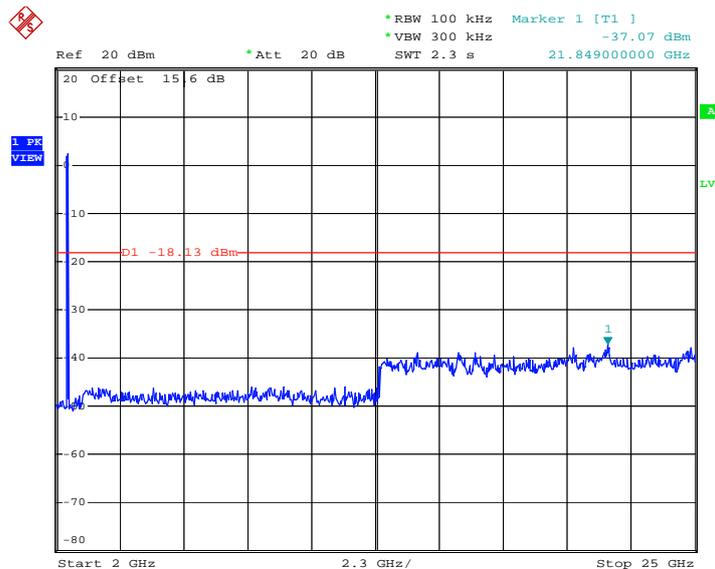
Conducted Spurious Emission Plot on Channel 01



Date: 24.JUL.2012 09:52:03

802.11g 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 01

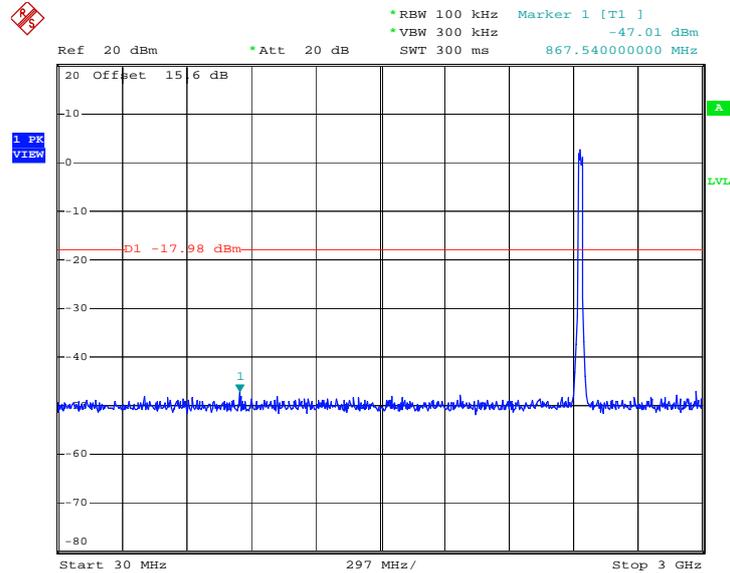


Date: 24.JUL.2012 09:52:21



802.11g 30 MHz~3 GHz

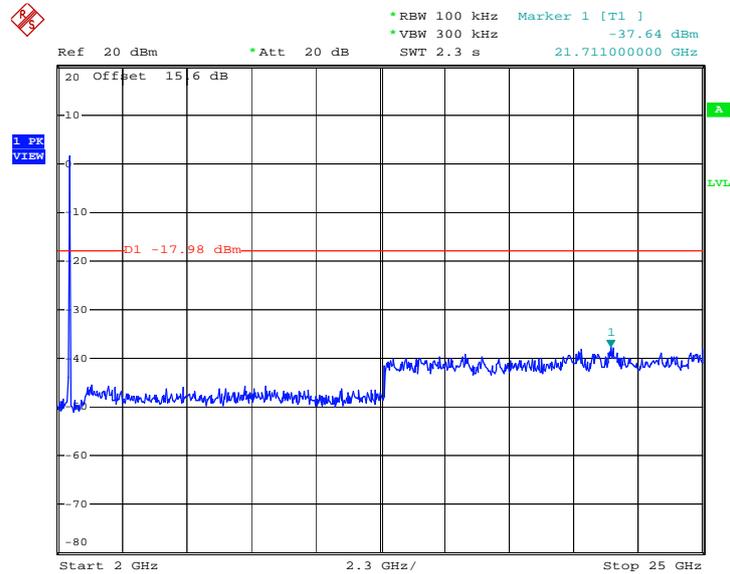
Conducted Spurious Emission Plot on Channel 06



Date: 24.JUL.2012 09:57:33

802.11g 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 06

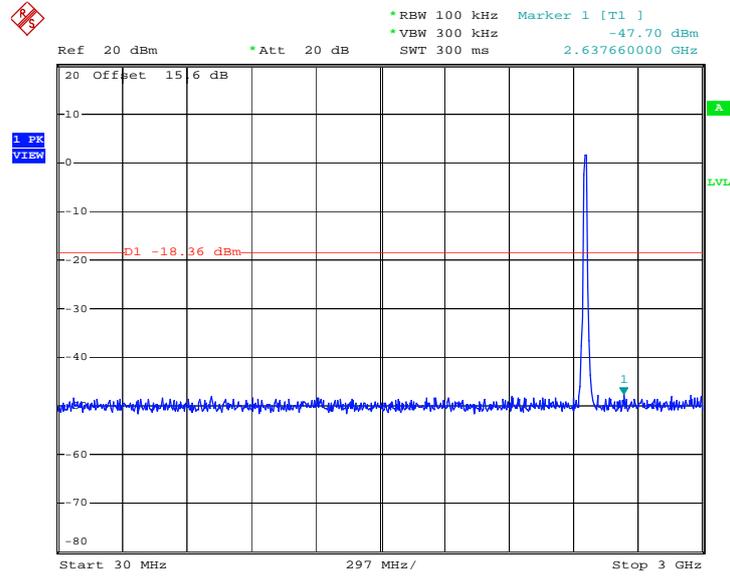


Date: 24.JUL.2012 09:57:52



802.11g 30 MHz~3 GHz

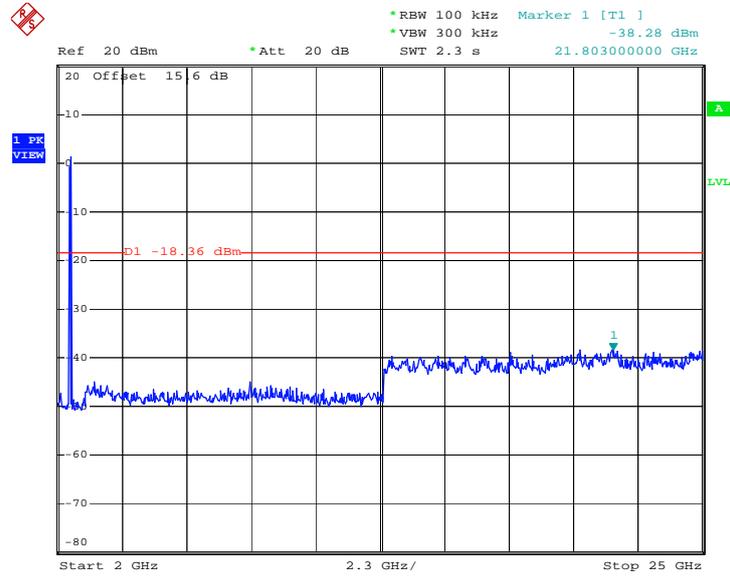
Conducted Spurious Emission Plot on Channel 11



Date: 24.JUL.2012 10:06:16

802.11g 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 11



Date: 24.JUL.2012 10:06:34

### 3.5 Radiated Emission Measurement

#### 3.5.1 Limit of Radiated Emission

In any 100 KHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the FCC section 15.209 limits as below.

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

#### 3.5.2 Measuring Instruments

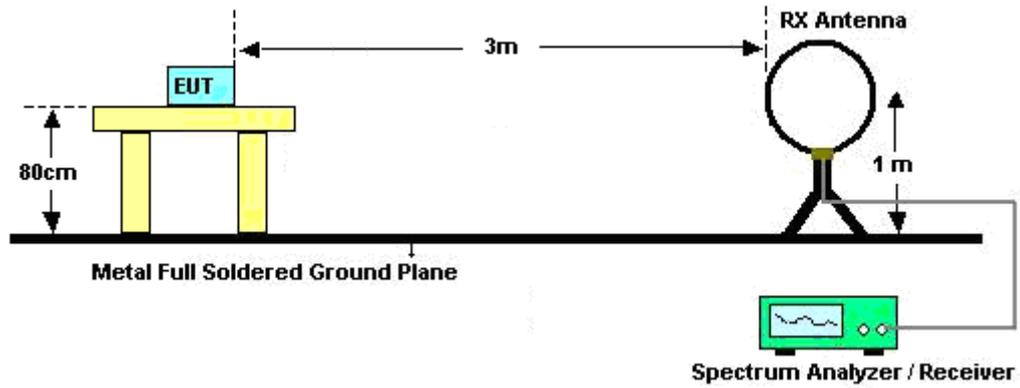
See list of measuring instruments of this test report.

### 3.5.3 Test Procedures

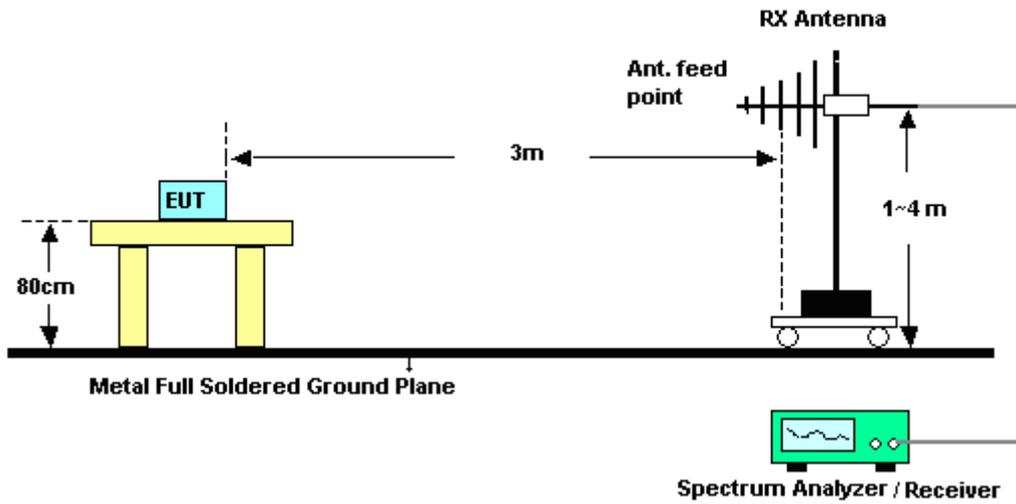
1. The testing follows TCB Workshop 2012, April and fulfills ANSI C63.4-2003 and the guidelines in ANSI C63.10-2009 test site requirement. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.
2. The EUT was placed on a turntable with 0.8 meter 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 table was rotated 360 degrees to determine the position of the highest radiation.
5. Use the following spectrum analyzer settings:
  - (1) Span shall wide enough to fully capture the emission being measured;
  - (2) Set RBW = 1 MHz for  $f \geq 1$  GHz, 100 KHz for  $f < 1$  GHz; VBW  $\geq$  RBW; Sweep = auto; Detector function = peak; Trace = max hold;
6. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
7. If the emission level of the EUT measured by the peak detector is more than 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported

### 3.5.4 Test Setup

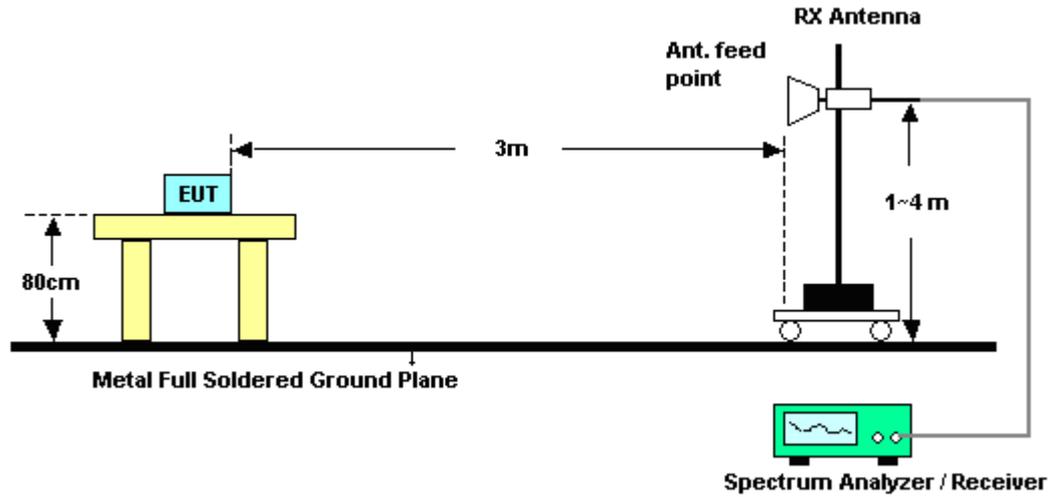
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



### 3.5.5 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.



3.5.6 Test Result of Radiated Band Edges

Test Mode :	802.11b	Temperature :	20~21°C
Test Band :	Low	Relative Humidity :	42~43%
Test Channel :	01	Test Engineer :	Jack Li

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2372.7	50.38	-23.62	74	48.14	32.83	3.42	34.01	200	10	Peak
2372.7	36.76	-17.24	54	34.52	32.83	3.42	34.01	200	10	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2379.54	50.34	-23.66	74	48.1	32.83	3.42	34.01	200	0	Peak
2379.54	37.04	-16.96	54	34.8	32.83	3.42	34.01	200	0	Average

Test Mode :	802.11b	Temperature :	20~21°C
Test Band :	High	Relative Humidity :	42~43%
Test Channel :	11	Test Engineer :	Jack Li

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2484.8	50.51	-23.49	74	48.02	33.01	3.68	34.2	200	360	Peak
2484.8	38.3	-15.7	54	35.81	33.01	3.68	34.2	200	360	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2493.54	50.26	-23.74	74	47.72	33.05	3.72	34.23	100	0	Peak
2493.54	37.41	-16.59	54	34.87	33.05	3.72	34.23	100	0	Average



Test Mode :	802.11g	Temperature :	20~21°C
Test Band :	Low	Relative Humidity :	42~43%
Test Channel :	01	Test Engineer :	Jack Li

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2390	56.27	-17.73	74	53.99	32.86	3.47	34.05	200	262	Peak
2390	40.99	-13.01	54	38.71	32.86	3.47	34.05	200	262	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2390	54.56	-19.44	74	52.28	32.86	3.47	34.05	100	132	Peak
2390	41.04	-12.96	54	38.76	32.86	3.47	34.05	100	132	Average

Test Mode :	802.11g	Temperature :	20~21°C
Test Band :	High	Relative Humidity :	42~43%
Test Channel :	11	Test Engineer :	Jack Li

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2483.5	54.14	-19.86	74	51.65	33.01	3.68	34.2	200	53	Peak
2483.5	39.65	-14.35	54	37.16	33.01	3.68	34.2	200	53	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2484.99	51.14	-22.86	74	48.65	33.01	3.68	34.2	100	105	Peak
2484.99	38.61	-15.39	54	36.12	33.01	3.68	34.2	100	105	Average

**3.5.8 Test Result of Radiated Emission (30 MHz ~ 10<sup>th</sup> Harmonic)**

<b>Test Mode :</b>	802.11b	<b>Temperature :</b>	20~21°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	42~43%
<b>Test Engineer :</b>	Jack Li	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2412 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
110.957	26.12	-17.38	43.5	43.86	11.8	0.43	29.97	-	-	Peak
159.784	28.91	-14.59	43.5	48.72	9.6	0.53	29.94	-	-	Peak
245.951	34.91	-11.09	46	52.23	11.84	0.67	29.83	100	185	Peak
300.367	27.68	-18.32	46	43.89	13.02	0.72	29.95	-	-	Peak
400.432	30.34	-15.66	46	43.33	16	0.84	29.83	-	-	Peak
952.094	33.86	-12.14	46	41.33	20.74	1.33	29.54	-	-	Peak
2372.7	50.38	-23.62	74	48.14	32.83	3.42	34.01	200	10	Peak
2372.7	36.76	-17.24	54	34.52	32.83	3.42	34.01	200	10	Average
2412	100.27	-	-	97.94	32.89	3.52	34.08	200	312	Peak
2412	94.85	-	-	92.52	32.89	3.52	34.08	200	312	Average
2485.37	50.09	-23.91	74	47.6	33.01	3.68	34.2	200	0	Peak
2485.37	37.1	-16.9	54	34.61	33.01	3.68	34.2	200	0	Average



Test Mode :	802.11b	Temperature :	20~21°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Jack Li	Polarization :	Vertical
Remark :	2412 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
37.285	21.42	-18.58	40	37.54	13.7	0.24	30.06	-	-	Peak
80.081	28.93	-11.07	40	52.02	6.6	0.35	30.04	100	201	Peak
109.796	26.26	-17.24	43.5	44	11.8	0.43	29.97	-	-	Peak
245.951	23.77	-22.23	46	41.09	11.84	0.67	29.83	-	-	Peak
400.432	27.62	-18.38	46	40.61	16	0.84	29.83	-	-	Peak
952.094	33.79	-12.21	46	41.26	20.74	1.33	29.54	-	-	Peak
2379.54	50.34	-23.66	74	48.1	32.83	3.42	34.01	200	0	Peak
2379.54	37.04	-16.96	54	34.8	32.83	3.42	34.01	200	0	Average
2412	96.79	-	-	94.46	32.89	3.52	34.08	200	181	Peak
2412	92.47	-	-	90.14	32.89	3.52	34.08	200	181	Average
2495.25	50.41	-23.59	74	47.87	33.05	3.72	34.23	200	0	Peak
2495.25	37.67	-16.33	54	35.13	33.05	3.72	34.23	200	0	Average



Test Mode :	802.11b	Temperature :	20~21°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Jack Li	Polarization :	Horizontal
Remark :	2437 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
110.957	26.05	-17.45	43.5	43.79	11.8	0.43	29.97	-	-	Peak
159.225	29.12	-14.38	43.5	48.89	9.64	0.53	29.94	-	-	Peak
245.951	33.52	-12.48	46	50.84	11.84	0.67	29.83	100	68	Peak
300.367	28.26	-17.74	46	44.47	13.02	0.72	29.95	-	-	Peak
400.432	29.93	-16.07	46	42.92	16	0.84	29.83	-	-	Peak
952.094	32.65	-13.35	46	40.12	20.74	1.33	29.54	-	-	Peak
2360.16	50.75	-23.25	74	48.54	32.81	3.38	33.98	200	108	Peak
2360.16	37.12	-16.88	54	34.91	32.81	3.38	33.98	200	108	Average
2437	97.92	-	-	95.52	32.95	3.6	34.15	200	253	Peak
2437	93.01	-	-	90.61	32.95	3.6	34.15	200	253	Average
2492.78	50.17	-23.83	74	47.63	33.05	3.72	34.23	200	0	Peak
2492.78	37.63	-16.37	54	35.09	33.05	3.72	34.23	200	0	Average



Test Mode :	802.11b	Temperature :	20~21°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Jack Li	Polarization :	Vertical
Remark :	2437 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
73.876	28.7	-11.3	40	52.74	5.68	0.34	30.06	-	-	Peak
79.521	30.2	-9.8	40	53.42	6.47	0.35	30.04	100	39	Peak
110.957	25.89	-17.61	43.5	43.63	11.8	0.43	29.97	-	-	Peak
333.687	27.71	-18.29	46	42.78	14.08	0.79	29.94	-	-	Peak
400.432	27.53	-18.47	46	40.52	16	0.84	29.83	-	-	Peak
952.094	33.42	-12.58	46	40.89	20.74	1.33	29.54	-	-	Peak
2363.39	51.12	-22.88	74	48.91	32.81	3.38	33.98	100	29	Peak
2363.39	37.06	-16.94	54	34.85	32.81	3.38	33.98	100	29	Average
2437	96.39	-	-	93.99	32.95	3.6	34.15	100	181	Peak
2437	91.06	-	-	88.66	32.95	3.6	34.15	100	181	Average
2484.99	50.31	-23.69	74	47.82	33.01	3.68	34.2	100	215	Peak
2484.99	37.59	-16.41	54	35.1	33.01	3.68	34.2	100	215	Average



<b>Test Mode :</b>	802.11b	<b>Temperature :</b>	20~21°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	42~43%
<b>Test Engineer :</b>	Jack Li	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2462 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
111.347	24.98	-18.52	43.5	42.72	11.8	0.43	29.97	-	-	Peak
158.668	28.72	-14.78	43.5	48.49	9.64	0.53	29.94	-	-	Peak
245.951	35.85	-10.15	46	53.17	11.84	0.67	29.83	100	0	Peak
300.367	30.32	-15.68	46	46.53	13.02	0.72	29.95	-	-	Peak
400.432	30.18	-15.82	46	43.17	16	0.84	29.83	-	-	Peak
942.131	32.55	-13.45	46	40.05	20.7	1.33	29.53	-	-	Peak
2363.2	51.28	-22.72	74	49.07	32.81	3.38	33.98	200	23	Peak
2363.2	37.81	-16.19	54	35.6	32.81	3.38	33.98	200	23	Average
2462	96.35	-	-	93.9	32.98	3.64	34.17	200	183	Peak
2462	90.8	-	-	88.35	32.98	3.64	34.17	200	183	Average
2484.8	50.51	-23.49	74	48.02	33.01	3.68	34.2	200	360	Peak
2484.8	38.3	-15.7	54	35.81	33.01	3.68	34.2	200	360	Average



Test Mode :	802.11b	Temperature :	20~21°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Jack Li	Polarization :	Vertical
Remark :	2462 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
74.396	28.61	-11.39	40	52.53	5.8	0.34	30.06	-	-	Peak
79.243	30.58	-9.42	40	53.8	6.47	0.35	30.04	100	59	Peak
109.029	25.4	-18.1	43.5	43.25	11.68	0.43	29.96	-	-	Peak
226.099	27.18	-18.82	46	45.9	10.59	0.63	29.94	-	-	Peak
400.432	28.88	-17.12	46	41.87	16	0.84	29.83	-	-	Peak
952.094	33.74	-12.26	46	41.21	20.74	1.33	29.54	-	-	Peak
2335.65	51.02	-22.98	74	48.85	32.78	3.33	33.94	100	53	Peak
2335.65	37.26	-16.74	54	35.09	32.78	3.33	33.94	100	53	Average
2462	92.72	-	-	90.27	32.98	3.64	34.17	100	196	Peak
2462	88.66	-	-	86.21	32.98	3.64	34.17	100	196	Average
2493.54	50.26	-23.74	74	47.72	33.05	3.72	34.23	100	0	Peak
2493.54	37.41	-16.59	54	34.87	33.05	3.72	34.23	100	0	Average



<b>Test Mode :</b>	802.11g	<b>Temperature :</b>	20~21°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	42~43%
<b>Test Engineer :</b>	Jack Li	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2412 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
79.243	20.48	-19.52	40	43.7	6.47	0.35	30.04	-	-	Peak
110.182	25.15	-18.35	43.5	42.89	11.8	0.43	29.97	-	-	Peak
158.668	30.5	-13	43.5	50.27	9.64	0.53	29.94	100	261	Peak
245.951	30.28	-15.72	46	47.6	11.84	0.67	29.83	-	-	Peak
400.432	27.17	-18.83	46	40.16	16	0.84	29.83	-	-	Peak
952.094	32.43	-13.57	46	39.9	20.74	1.33	29.54	-	-	Peak
2390	56.27	-17.73	74	53.99	32.86	3.47	34.05	200	262	Peak
2390	40.99	-13.01	54	38.71	32.86	3.47	34.05	200	262	Average
2412	98.17	-	-	95.84	32.89	3.52	34.08	200	259	Peak
2412	82.85	-	-	80.52	32.89	3.52	34.08	200	259	Average
2489.74	50.07	-23.93	74	47.53	33.05	3.72	34.23	200	0	Peak
2489.74	36.8	-17.2	54	34.26	33.05	3.72	34.23	200	0	Average



Test Mode :	802.11g	Temperature :	20~21°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Jack Li	Polarization :	Vertical
Remark :	2412 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
74.135	28.93	-11.07	40	52.85	5.8	0.34	30.06	-	-	Peak
79.243	30.61	-9.39	40	53.83	6.47	0.35	30.04	100	183	Peak
110.957	25	-18.5	43.5	42.74	11.8	0.43	29.97	-	-	Peak
158.668	23.47	-20.03	43.5	43.24	9.64	0.53	29.94	-	-	Peak
245.951	25.94	-20.06	46	43.26	11.84	0.67	29.83	-	-	Peak
952.094	32.58	-13.42	46	40.05	20.74	1.33	29.54	-	-	Peak
2390	54.56	-19.44	74	52.28	32.86	3.47	34.05	100	132	Peak
2390	41.04	-12.96	54	38.76	32.86	3.47	34.05	100	132	Average
2412	94.78	-	-	92.45	32.89	3.52	34.08	100	139	Peak
2412	79.9	-	-	77.57	32.89	3.52	34.08	100	139	Average
2485.75	49.91	-24.09	74	47.42	33.01	3.68	34.2	100	0	Peak
2485.75	37.22	-16.78	54	34.73	33.01	3.68	34.2	100	0	Average



Test Mode :	802.11g	Temperature :	20~21°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Jack Li	Polarization :	Horizontal
Remark :	2437 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
78.965	20.42	-19.58	40	43.78	6.34	0.35	30.05	-	-	Peak
110.569	25.52	-17.98	43.5	43.26	11.8	0.43	29.97	-	-	Peak
158.112	31.23	-12.27	43.5	50.98	9.67	0.53	29.95	-	-	Peak
245.951	36.74	-9.26	46	54.06	11.84	0.67	29.83	100	252	Peak
400.432	25.75	-20.25	46	38.74	16	0.84	29.83	-	-	Peak
952.094	32.77	-13.23	46	40.24	20.74	1.33	29.54	-	-	Peak
2354.08	50.22	-23.78	74	48.01	32.81	3.38	33.98	200	106	Peak
2354.08	36.78	-17.22	54	34.57	32.81	3.38	33.98	200	106	Average
2437	98.27	-	-	95.87	32.95	3.6	34.15	200	56	Peak
2437	83.96	-	-	81.56	32.95	3.6	34.15	200	56	Average
2483.6	50.49	-23.51	74	48	33.01	3.68	34.2	200	301	Peak
2483.6	37.67	-16.33	54	35.18	33.01	3.68	34.2	200	301	Average



Test Mode :	802.11g	Temperature :	20~21°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Jack Li	Polarization :	Vertical
Remark :	2437 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
74.657	28.77	-11.23	40	52.69	5.8	0.34	30.06	-	-	Peak
78.965	29.01	-10.99	40	52.37	6.34	0.35	30.05	100	310	Peak
110.569	24.68	-18.82	43.5	42.42	11.8	0.43	29.97	-	-	Peak
158.112	24	-19.5	43.5	43.75	9.67	0.53	29.95	-	-	Peak
245.951	28.43	-17.57	46	45.75	11.84	0.67	29.83	-	-	Peak
952.094	33.29	-12.71	46	40.76	20.74	1.33	29.54	-	-	Peak
2314.94	51.41	-22.59	74	49.32	32.73	3.22	33.86	100	0	Peak
2314.94	37.38	-16.62	54	35.29	32.73	3.22	33.86	100	0	Average
2437	94.64	-	-	92.24	32.95	3.6	34.15	100	259	Peak
2437	80.08	-	-	77.68	32.95	3.6	34.15	100	259	Average
2497.34	49.93	-24.07	74	47.39	33.05	3.72	34.23	100	200	Peak
2497.34	37.39	-16.61	54	34.85	33.05	3.72	34.23	100	200	Average



Test Mode :	802.11g	Temperature :	20~21°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Jack Li	Polarization :	Horizontal
Remark :	2462 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
110.182	25.16	-18.34	43.5	42.9	11.8	0.43	29.97	-	-	Peak
158.112	30.62	-12.88	43.5	50.37	9.67	0.53	29.95	-	-	Peak
245.951	34.77	-11.23	46	52.09	11.84	0.67	29.83	100	165	Peak
319.937	26	-20	46	41.64	13.55	0.76	29.95	-	-	Peak
400.432	25.61	-20.39	46	38.6	16	0.84	29.83	-	-	Peak
952.094	31.7	-14.3	46	39.17	20.74	1.33	29.54	-	-	Peak
2387.33	51.09	-22.91	74	48.81	32.86	3.47	34.05	200	0	Peak
2387.33	36.53	-17.47	54	34.25	32.86	3.47	34.05	200	0	Average
2462	95.61	-	-	93.16	32.98	3.64	34.17	200	59	Peak
2462	81.26	-	-	78.81	32.98	3.64	34.17	200	59	Average
2483.5	54.14	-19.86	74	51.65	33.01	3.68	34.2	200	53	Peak
2483.5	39.65	-14.35	54	37.16	33.01	3.68	34.2	200	53	Average



Test Mode :	802.11g	Temperature :	20~21°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Jack Li	Polarization :	Vertical
Remark :	2462 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
74.396	28.75	-11.25	40	52.67	5.8	0.34	30.06	-	-	Peak
78.965	29.89	-10.11	40	53.25	6.34	0.35	30.05	100	109	Peak
110.182	24.75	-18.75	43.5	42.49	11.8	0.43	29.97	-	-	Peak
158.112	24.2	-19.3	43.5	43.95	9.67	0.53	29.95	-	-	Peak
245.951	26.09	-19.91	46	43.41	11.84	0.67	29.83	-	-	Peak
952.094	33.12	-12.88	46	40.59	20.74	1.33	29.54	-	-	Peak
2325.96	50.61	-23.39	74	48.48	32.76	3.27	33.9	100	23	Peak
2325.96	37.22	-16.78	54	35.09	32.76	3.27	33.9	100	23	Average
2462	93.18	-	-	90.73	32.98	3.64	34.17	100	121	Peak
2462	78.38	-	-	75.93	32.98	3.64	34.17	100	121	Average
2484.99	51.14	-22.86	74	48.65	33.01	3.68	34.2	100	105	Peak
2484.99	38.61	-15.39	54	36.12	33.01	3.68	34.2	100	105	Average

### 3.6 AC Conducted Emission Measurement

#### 3.6.1 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 (dBuV)	
	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.

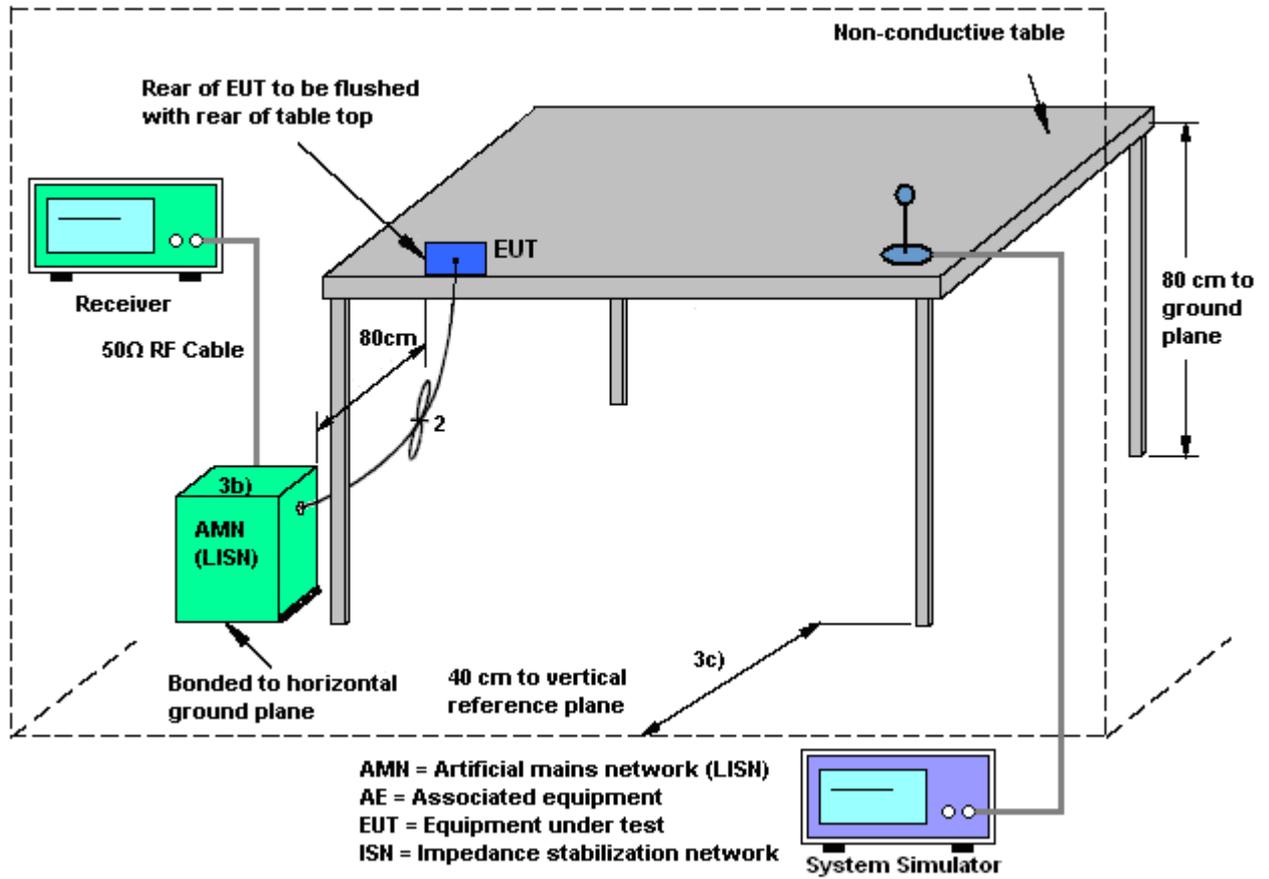
#### 3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

#### 3.6.3 Test Procedures

1. The testing follows the guidelines in ANSI C63.4-2003 and ANSI C63.10-2009.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance stabilization network (LISN).
4. All the support units are connecting to the other LISN.
5. The LISN provides 50 ohm coupling impedance for the measuring instrument.
6. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
7. Both sides of AC line were checked for maximum conducted interference.
8. The frequency range from 150 KHz to 30 MHz was searched.
9. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

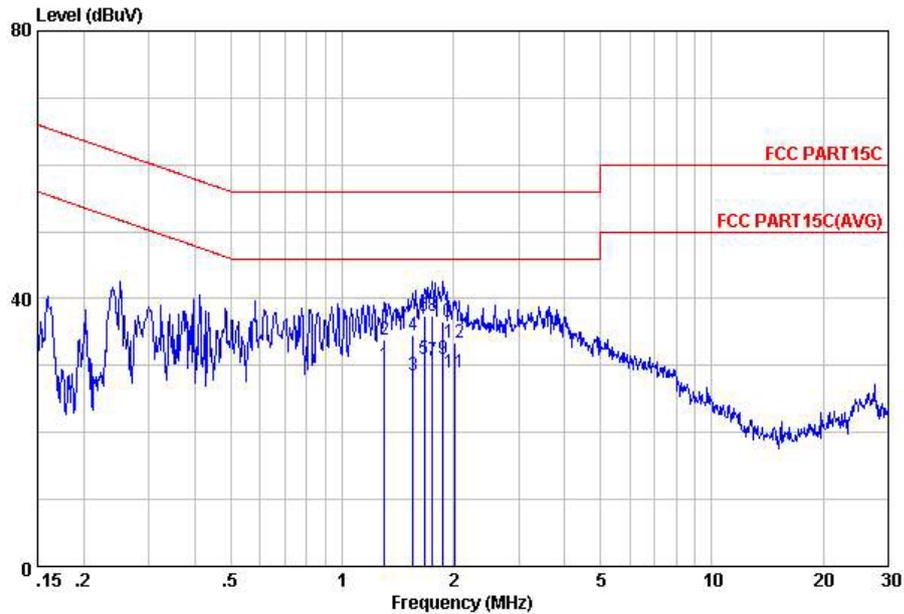
### 3.6.4 Test Setup





3.6.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	19~20°C
Test Engineer :	Tom Wang	Relative Humidity :	39~40%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM850 Idle + Bluetooth Link + WLAN Link + Adpater + Earphone + Camera		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



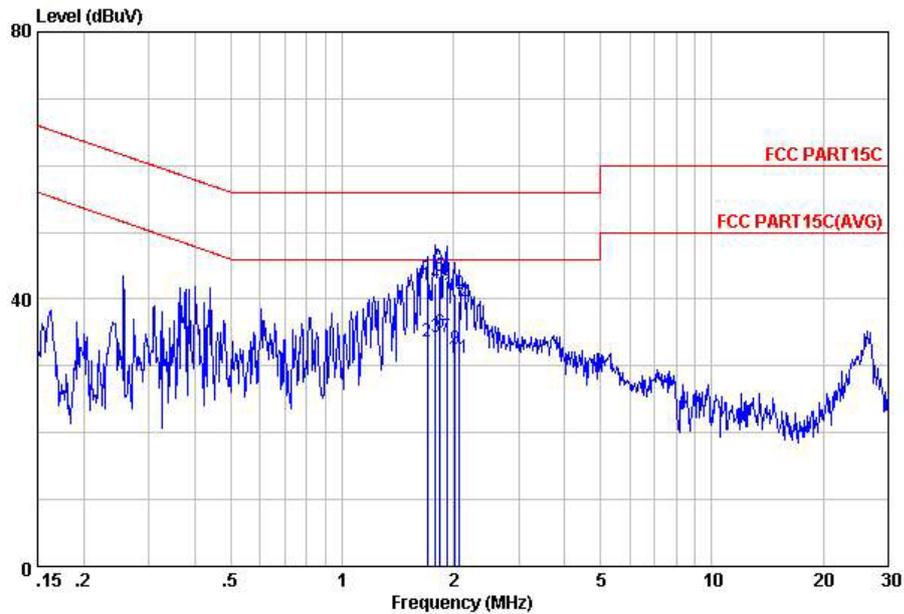
Site : C001-KS  
 Condition: FCC PART15C LISN-111230 LINE

mode : Mode 1

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1	1.30	30.06	-15.94	46.00	19.50	-0.10	10.66	Average
2	1.30	33.76	-22.24	56.00	23.20	-0.10	10.66	QP
3	1.55	28.48	-17.52	46.00	17.90	-0.11	10.69	Average
4	1.55	34.48	-21.52	56.00	23.90	-0.11	10.69	QP
5	1.67	30.98	-15.02	46.00	20.40	-0.11	10.69	Average
6	1.67	37.48	-18.52	56.00	26.90	-0.11	10.69	QP
7	1.75	30.79	-15.21	46.00	20.21	-0.11	10.69	Average
8	1.75	37.49	-18.51	56.00	26.91	-0.11	10.69	QP
9	1.88	30.89	-15.11	46.00	20.30	-0.11	10.70	Average
10	1.88	36.49	-19.51	56.00	25.90	-0.11	10.70	QP
11	2.02	28.89	-17.11	46.00	18.30	-0.11	10.70	Average
12	2.02	33.49	-22.51	56.00	22.90	-0.11	10.70	QP



Test Mode :	Mode 1	Temperature :	19~20°C
Test Engineer :	Tom Wang	Relative Humidity :	39~40%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GSM850 Idle + Bluetooth Link + WLAN Link + Adpater + Earphone + Camera		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : C001-KS  
 Condition: FCC PART15C LISN-111230 NEUTRAL

mode : Mode 1

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1	1.70	42.19	-13.81	56.00	31.61	-0.11	10.69	QP
2	1.70	33.59	-12.41	46.00	23.01	-0.11	10.69	Average
3	1.79	34.29	-11.71	46.00	23.70	-0.11	10.70	Average
4	1.79	42.39	-13.61	56.00	31.80	-0.11	10.70	QP
5	1.84	43.39	-12.61	56.00	32.80	-0.11	10.70	QP
6	1.84	34.89	-11.11	46.00	24.30	-0.11	10.70	Average
7	1.92	34.29	-11.71	46.00	23.70	-0.11	10.70	Average
8	1.92	42.89	-13.11	56.00	32.30	-0.11	10.70	QP
9	2.02	32.59	-13.41	46.00	22.00	-0.11	10.70	Average
10	2.02	40.69	-15.31	56.00	30.10	-0.11	10.70	QP
11	2.07	31.29	-14.71	46.00	20.70	-0.11	10.70	Average
12	2.07	39.59	-16.41	56.00	29.00	-0.11	10.70	QP



## **3.7 Antenna Requirements**

### **3.7.1 Standard Applicable**

If directional gain of transmitting antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the FCC rule.

### **3.7.2 Antenna Connected Construction**

Non-standard connector used.

### **3.7.3 Antenna Gain**

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

## 4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP40	100319	9kHz~40GHz	Dec. 30, 2011	Jul. 24, 2012	Dec. 29, 2012	Conducted (TH01-KS)
Power Meter	Agilent	E4416A	MY45101555	N/A	Aug. 23, 2011	Jul. 24, 2012	Aug. 22, 2012	Conducted (TH01-KS)
Power Sensor	Agilent	E9327A	MY44421198	N/A	Aug. 23, 2011	Jul. 24, 2012	Aug. 22, 2012	Conducted (TH01-KS)
DC Power Supply	GWINSTEK	GPS-3030D	E1884515	N/A	Aug. 23, 2011	Jul. 24, 2012	Aug. 22, 2012	Conducted (TH01-KS)
Thermal Chamber	Ten Billion	TTC-B3S	TBN-960502	N/A	Dec. 30, 2011	Jul. 24, 2012	Dec. 29, 2012	Conducted (TH01-KS)
EMI Test Receiver	R&S	ESCI	100534	9kHz~3GHz	Nov. 09, 2011	Jul. 25, 2012	Nov. 08, 2012	Radiation (03CH01-KS)
Spectrum Analyzer	R&S	FSP40	100319	9kHz~40GHz	Dec. 30, 2011	Jul. 25, 2012	Dec. 29, 2012	Radiation (03CH01-KS)
Bilog Antenna	SCHAFFNER	CBL6112D	23182	25MHz~2GHz	Dec. 08, 2011	Jul. 25, 2012	Dec. 07, 2012	Radiation (03CH01-KS)
Loop Antenna	R&S	HFH2-Z2	860004/00	9 kHz~30 MHz	Jul. 28, 2011	Jul. 25, 2012	Jul. 27, 2012	Radiation (03CH01-KS)
Double Ridge Horn Antenna	EMCO	3117	00075959	1GHz~18GHz	Jan. 06, 2012	Jul. 25, 2012	Jan. 05, 2013	Radiation (03CH01-KS)
Amplifier	Wireless	FPA-6592G	060004	30MHz~2GHz	Dec. 30, 2011	Jul. 25, 2012	Dec. 29, 2012	Radiation (03CH01-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Dec. 30, 2011	Jul. 25, 2012	Dec. 29, 2012	Radiation (03CH01-KS)
Active Horn Antenna	com-power	AHA-118	701023	1GHz~18GHz	Nov. 07, 2011	Jul. 25, 2012	Nov. 06, 2012	Radiation (03CH01-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	BBHA170249	15GHz~40GHz	Oct. 11, 2011	Jul. 25, 2012	Oct.10, 2012	Radiation (03CH01-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz	Jun. 01, 2012	Jul. 24, 2012	May 31, 2013	Conduction (CO01-KS)
LISN	MessTec	AN3016	60103	9kHz~30MHz	Dec. 30, 2011	Jul. 24, 2012	Dec. 29, 2012	Conduction (CO01-KS)
LISN	MessTec	AN3016	60105	9kHz~30MHz	Dec. 30, 2011	Jul. 24, 2012	Dec. 29, 2012	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP00000811	N/A	Nov. 16, 2011	Jul. 24, 2012	Nov. 15, 2012	Conduction (CO01-KS)
System Simulator	R&S	CMU200	837587/066	2G Full-Band	Dec. 30, 2011	Jul. 24, 2012	Dec. 29, 2012	Conduction (CO01-KS)



## 5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	2.26
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### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	2.54
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### Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	4.72
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## **Appendix A. Photographs of EUT**

Please refer to Sporton report number EP262807 as below.