

# Variant FCC RF Test Report

APPLICANT : ZTE CORPORATION  
EQUIPMENT : LTE/WCDMA FWT  
BRAND NAME : ZTE  
MODEL NAME : MF28B  
FCC ID : Q78-MF28B  
STANDARD : FCC Part 15 Subpart C §15.247  
CLASSIFICATION : (DTS) Digital Transmission System

This is a variant report which is only valid together with the original test report. The product was received on Jul. 04, 2012 and completely tested on Jul. 18, 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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### REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR251501-01	Rev. 01	This is a variant report. The product equality declaration could be referred to Appendix C. All test cases were performed on original report which can be referred to SPORTON Report Number FR251501. Based on the original test report, only the worse cases of Radiated Spurious Emissions, AC Conducted Emission and the conducted power were verified for the differences.	Jul. 20, 2012



### SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.247(b)	A8.4	Power Output Measurement	≤ 30dBm	Pass	-
3.2	15.247(d)	A8.5	Radiated Band Edges	15.209(a) & 15.247(d)	Pass	-
			Radiated Spurious Emission		Pass	Under limit 4.18 dB at 49.400 MHz
3.3	15.207	Gen 7.2.4	AC Conducted Emission	15.207(a)	Pass	Under limit 8.19 dB at 0.460 MHz
3.4	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, 518057, P.R.China

## **1.2 Manufacturer**

**ZTE CORPORATION**

ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R.China

### 1.3 Feature of Equipment Under Test

Product Feature	
Equipment	LTE/WCDMA FWT
Brand Name	ZTE
Model Name	MF28B
FCC ID	Q78-MF28B
EUT supports Radios application	WCDMA / HSPA / LTE / WLAN 11bgn
HW Version	dw8A
SW Version	CR_MF28BV1.0.0B04
EUT Stage	Production Unit

**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	
Tx/Rx Frequency Range	2412 MHz ~ 2462 MHz
Number of Channels	11
Carrier Frequency of Each Channel	2412+(n-1)*5 MHz; n=1~11
Maximum Output Power to Antenna	<p><b>&lt;Legacy Ant. 0&gt;</b>            802.11b : 17.89 dBm (0.062 W)            802.11g : 23.01 dBm (0.200 W)</p> <p><b>&lt;Legacy Ant. 1&gt;</b>            802.11b : 17.78 dBm (0.060 W)            802.11g : 22.89 dBm (0.195 W)</p> <p><b>&lt;SISO Ant. 0&gt;</b>            802.11n HT-20 : 20.65 dBm (0.116 W)            802.11n HT-40 : 19.16 dBm (0.082 W)</p> <p><b>&lt;SISO Ant. 1&gt;</b>            802.11n HT-20 : 21.02 dBm (0.126 W)            802.11n HT-40 : 20.13 dBm (0.103 W)</p> <p><b>&lt;MIMO Ant. 1+2&gt;</b>            802.11n HT-20 : 24.14 dBm (0.259 W)            802.11n HT-40 : 20.22 dBm (0.105 W)</p>
Antenna Type	Dipole Antenna with gain 2.05 dBi
Type of Modulation	802.11b : DSSS (BPSK / QPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)



### 1.4 Testing Site

Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.			
Test Site Location	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C. TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958			
Test Site No.	Sporton Site No.			FCC/IC Registration No.
	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.	WLAN AP	D-Link	DIR-855	KA2DIR855A2	N/A	Unshielded, 1.8 m
3.	Notebook	Dell	P08S	QDS-BRC1030	N/A	AC I/P: Unshielded, 0.9 m DC O/P: Shielded, 1.8 m
4.	Notebook	Acer	ZG8	HLZUNDP-1Q	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m
5.	iPod	Apple	A1199	FCC DoC	Shielded, 1.2 m	N/A
6.	AC Power Source	Chroma	61602	N/A	N/A	Unshielded, 1.8 m



## 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, 11g, 11n HT-20, 11n HT-40 modes) were chosen for full test in the following sections to demonstrate compliance to the FCC limit line. .

Channel	Frequency	Ant. Chain	2.4GHz 802.11b RF Power (dBm)			
			DSSS Data Rate			
			1 Mbps	2 Mbps	5.5 Mbps	11 Mbps
CH 01	2412 MHz	0	16.84	16.61	16.65	16.59
CH 06	2437 MHz	0	17.89	17.84	17.85	17.88
CH 11	2462 MHz	0	17.29	17.22	17.18	17.16
CH 01	2412 MHz	1	16.69	16.61	16.54	16.51
CH 06	2437 MHz	1	17.78	17.72	17.68	17.74
CH 11	2462 MHz	1	17.02	16.95	16.89	16.82

Channel	Frequency	Ant. Chain	2.4GHz 802.11g RF Power (dBm)							
			OFDM Data Rate							
			6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
CH 01	2412 MHz	0	22.35	22.26	22.21	22.15	22.11	22.06	22.01	21.96
CH 06	2437 MHz	0	23.01	22.98	22.94	22.71	22.66	22.73	22.71	22.68
CH 11	2462 MHz	0	22.43	22.36	22.31	22.25	22.22	22.17	22.12	22.06
CH 01	2412 MHz	1	22.25	22.21	22.15	22.11	22.06	22.01	21.92	21.85
CH 06	2437 MHz	1	22.89	22.82	22.75	22.65	22.56	22.49	22.42	22.38
CH 11	2462 MHz	1	22.52	22.45	22.38	22.35	22.31	22.25	22.21	22.16



Channel	Frequency	Ant. Chain	2.4GHz 802.11n HT-20 RF Power (dBm)							
			OFDM Data Rate							
			MCS=0	MCS=1	MCS=2	MCS=3	MCS=4	MCS=5	MCS=6	MCS=7
CH 01	2412 MHz	0	19.22	19.11	19.05	18.89	18.72	18.66	18.59	18.45
CH 06	2437 MHz	0	20.65	20.42	20.33	20.22	20.37	20.23	20.14	20.33
CH 11	2462 MHz	0	19.98	19.85	19.74	19.66	19.52	19.45	19.32	19.21
CH 01	2412 MHz	1	20.19	20.05	19.89	19.75	19.65	19.59	19.45	19.37
CH 06	2437 MHz	1	21.02	20.97	20.89	20.77	20.86	20.75	20.61	20.56
CH 11	2462 MHz	1	20.46	20.41	20.35	20.23	20.15	20.06	19.95	19.74
Channel	Frequency	Ant. Chain	MCS=8	MCS=9	MCS=10	MCS=11	MCS=12	MCS=13	MCS=14	MCS=15
CH 01	2412 MHz	0+1(0)	20.12	20.05	19.95	19.75	19.65	19.49	19.32	19.24
		0+1(1)	20.52	20.45	20.33	20.25	20.15	20.05	19.89	19.75
		0+1	23.03	22.89	22.75	22.66	22.61	22.54	22.48	22.41
CH 06	2437 MHz	0+1(0)	20.98	20.76	20.65	20.52	20.45	20.41	20.35	20.31
		0+1(1)	21.23	21.05	20.98	20.78	20.86	20.67	20.75	20.86
		0+1	24.14	23.95	23.88	23.74	23.85	23.75	23.62	23.54
CH 11	2462 MHz	0+1(0)	20.76	20.65	20.55	20.42	20.37	20.31	20.24	20.18
		0+1(1)	20.95	20.81	20.69	20.55	20.42	20.31	20.19	20.05
		0+1	23.78	23.71	23.65	23.55	23.42	23.26	23.11	23.05



Channel	Frequency	Ant. Chain	2.4GHz 802.11n HT-40 RF Power (dBm)							
			OFDM Data Rate							
			MCS=0	MCS=1	MCS=2	MCS=3	MCS=4	MCS=5	MCS=6	MCS=7
CH 03	2422 MHz	0	19.16	17.86	17.98	17.46	17.32	17.17	17.13	17.11
CH 06	2437 MHz	0	19.05	17.75	17.59	17.52	17.58	17.45	17.35	17.29
CH 09	2452 MHz	0	18.32	17.71	17.68	17.62	17.54	17.49	17.35	17.29
CH 03	2422 MHz	1	19.78	19.62	19.52	19.45	19.41	19.35	19.25	19.05
CH 06	2437 MHz	1	20.13	18.84	18.74	18.62	18.55	18.44	18.28	18.23
CH 09	2452 MHz	1	19.69	19.55	19.42	19.36	19.24	19.12	19.04	18.94
Channel	Frequency	Ant. Chain	MCS=8	MCS=9	MCS=10	MCS=11	MCS=12	MCS=13	MCS=14	MCS=15
CH 03	2422 MHz	0+1(0)	18.23	18.05	17.98	17.85	17.72	17.62	17.54	17.45
		0+1(1)	17.93	17.75	17.62	17.55	17.45	17.26	17.22	17.14
		0+1	19.13	19.02	18.88	18.69	18.58	18.45	18.35	18.29
CH 06	2437 MHz	0+1(0)	19.03	18.95	18.86	18.81	18.75	18.69	18.62	18.58
		0+1(1)	18.16	18.06	18.03	17.96	17.91	17.84	17.75	17.63
		0+1	20.22	20.13	20.09	19.85	19.78	19.68	19.52	19.42
CH 09	2452 MHz	0+1(0)	18.73	18.66	18.61	18.45	18.51	18.39	18.25	18.15
		0+1(1)	18.05	17.92	17.88	17.71	17.65	17.52	17.44	17.32
		0+1	19.96	19.82	19.74	19.65	19.58	19.42	19.32	19.24

**Remark:**

1. The data rates of WLAN 802.11b/g/n were set in 1Mbps for 802.11b, 6 Mbps for 802.11g, MCS=8 for 802.11n HT-20, and MCS=8 for 802.11n HT-40 for all the test cases due to the highest RF output power.
2. The EUT is programmed to transmit signals continuously for all testing



### 2.3 Test Mode

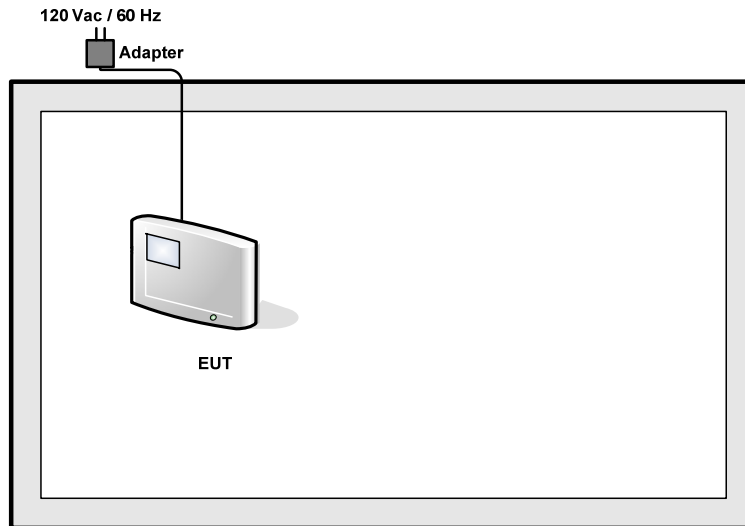
The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and ANSI C63.10-2009 and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 KHz to 30 MHz), radiated emission (30 MHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

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

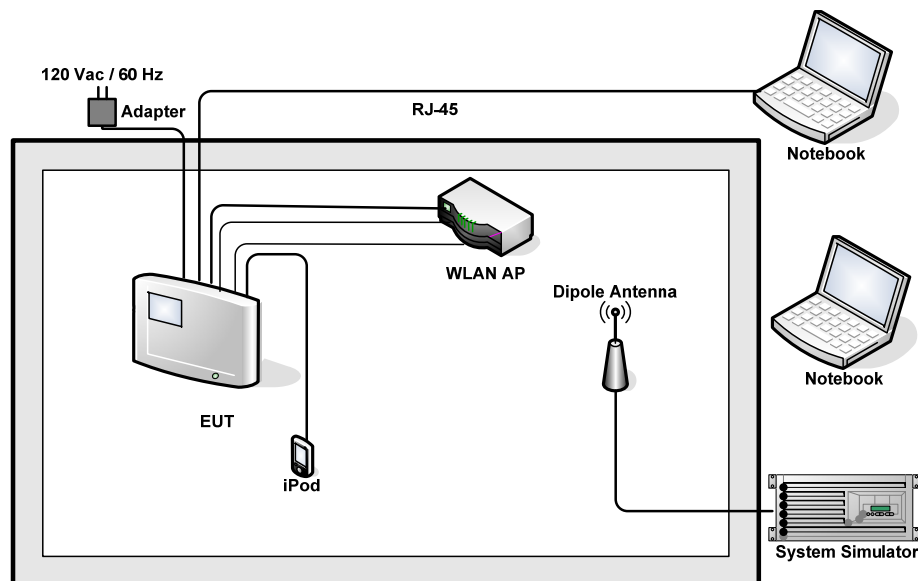
Test Cases					
Test Item	802.11b (Modulation : DSSS) 802.11g/n (Modulation : OFDM)				
	Radiated TCs	Test Mode	802.11b	802.11g	802.11n HT-20
CH01		1	-	-	
CH06		-	-	-	
CH11		-	2	3	
Test Mode		802.11n HT-40			
CH03		-			
CH06		-			
CH09		4			
AC Conducted Emission		Mode 1 : WCDMA Band V Idle + Adapter + LAN Link + WLAN Link + TC			
<b>Remark:</b> TC stands for Test Configuration, and consists of iPod, Notebook, WLAN AP, and RJ-45.					

## 2.4 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



## 2.5 RF Utility

The programmed RF utility "artyui", is installed in EUT to provide channel selection, power level, data rate and the application type. RF Utility can send transmitting signal for all testing. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

### 3 Test Result

#### 3.1 Output Power Measurement

##### 3.1.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5MHz, 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.

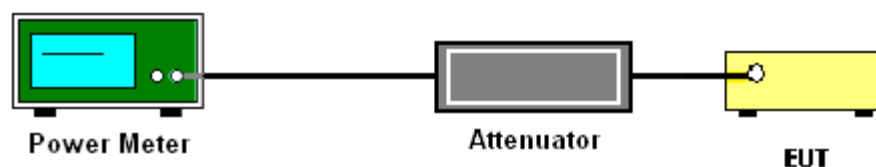
##### 3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

##### 3.1.3 Test Procedures

1. The testing follows the Measurement Procedure 7.2.1.3 Option 3(peak power meter method) of FCC KDB No. 558074 DTS Meas. Guidance DR01.
2. The RF output of EUT was connected to the power meter by a low loss cable
3. Measure the power by power meter.

##### 3.1.4 Test Setup





3.1.5 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
		Chain 0	Chain 1		
01	2412	16.84	16.69	30	Pass
06	2437	17.89	17.78	30	Pass
11	2462	17.29	17.02	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
		Chain 0	Chain 1		
01	2412	22.35	22.25	30	Pass
06	2437	23.01	22.89	30	Pass
11	2462	22.43	22.52	30	Pass

Test Mode :	802.11n HT-20	Temperature :	23~24°C
Test Engineer :	Zhi Lu	Relative Humidity :	47~48%

Channel	Frequency (MHz)	802.11n HT-20 Peak Output Power (dBm)					Max. Limits (dBm)	Pass/Fail
		SISO Chain 0	SISO Chain 1	MIMO Chain 0+1(0)	MIMO Chain 0+1(1)	MIMO Chain 0+1		
01	2412	19.22	20.19	20.12	20.52	23.03	30	Pass
06	2437	20.65	21.02	20.98	21.23	24.14	30	Pass
11	2462	19.98	20.46	20.76	20.95	23.78	30	Pass

Note: MIMO Chain 0+1 is a calculated result from sum of the power MIMO Chain 0 and MIMO Chain 1.



Test Mode :	802.11n HT-40	Temperature :	23~24°C
Test Engineer :	Zhi Lu	Relative Humidity :	47~48%

Channel	Frequency (MHz)	802.11n HT-40 Peak Output Power (dBm)					Max. Limits (dBm)	Pass/Fail
		SISO Chain 0	SISO Chain 1	MIMO Chain 0+1(0)	MIMO Chain 0+1(1)	MIMO Chain 0+1		
03	2422	19.16	19.78	18.23	17.93	19.13	30	Pass
06	2437	19.05	20.13	19.03	18.16	20.22	30	Pass
09	2452	18.32	19.69	18.73	18.05	19.96	30	Pass

**Note:** MIMO Chain 0+1 is a calculated result from sum of the power MIMO Chain 0 and MIMO Chain 1.





3.1.6 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:	99.52% for Chain 0 99.30% for Chain 1	Duty Factor:	0.02dB for Chain 0 0.03dB for Chain 1

Channel	Frequency (MHz)	802.11b Average Output Power (dBm)	
		Chain 0	Chain 1
01	2412	14.25	14.12
06	2437	15.29	15.07
11	2462	14.75	14.54

Test Mode :	802.11g	Temperature :	23~24°C
Test Engineer :	Zhi Lu	Relative Humidity :	47~48%
Duty Cycle:	95.77% for Chain 0 96.59% for Chain 1	Duty Factor:	0.19dB for Chain 0 0.15dB for Chain 1

Channel	Frequency (MHz)	802.11g Average Output Power (dBm)	
		Chain 0	Chain 1
01	2412	12.85	12.77
06	2437	13.68	13.50
11	2462	13.31	13.37



<b>Test Mode :</b>	802.11n HT-20	<b>Temperature :</b>	23~24°C
<b>Test Engineer :</b>	Zhi Lu	<b>Relative Humidity :</b>	47~48%
<b>Duty Cycle:</b>	95.35% for SISO Chain 0 95.45% for SISO Chain 1 93.24% for MIMO Chain 0+1(0) 91.32% for MIMO Chain 0+1(1) 90.58% for MIMO Chain 0+1	<b>Duty Factor:</b>	0.21dB for SISO Chain 0 0.20dB for SISO Chain 1 0.30dB for MIMO Chain 0+1(0) 0.39dB for MIMO Chain 0+1(1) 0.43dB for MIMO Chain 0+1

Channel	Frequency (MHz)	802.11n HT-20 Average Output Power (dBm)				
		SISO Chain 0	SISO Chain 1	MIMO Chain 0+1(0)	MIMO Chain 0+1(1)	MIMO Chain 0+1
01	2412	8.89	9.91	9.51	10.08	11.84
06	2437	10.33	10.87	10.72	11.31	13.68
11	2462	10.05	10.56	10.27	10.88	13.19

<b>Test Mode :</b>	802.11n HT-40	<b>Temperature :</b>	23~24°C
<b>Test Engineer :</b>	Zhi Lu	<b>Relative Humidity :</b>	47~48%
<b>Duty Cycle:</b>	92.94% for SISO Chain 0 92.26% for SISO Chain 1 90.00% for MIMO Chain 0+1(0) 90.00% for MIMO Chain 0+1(1) 90.00% for MIMO Chain 0+1	<b>Duty Factor:</b>	0.32dB for SISO Chain 0 0.35dB for SISO Chain 1 0.46dB for MIMO Chain 0+1(0) 0.46dB for MIMO Chain 0+1(1) 0.46dB for MIMO Chain 0+1

Channel	Frequency (MHz)	802.11n HT-40 Average Output Power (dBm)				
		SISO Chain 0	SISO Chain 1	MIMO Chain 0+1(0)	MIMO Chain 0+1(1)	MIMO Chain 0+1
03	2422	6.83	7.54	6.92	7.24	9.08
06	2437	6.74	7.87	7.45	7.79	9.92
09	2452	6.56	7.46	7.22	7.41	9.69



### 3.2 Radiated Emission Measurement

#### 3.2.1 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

#### 3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

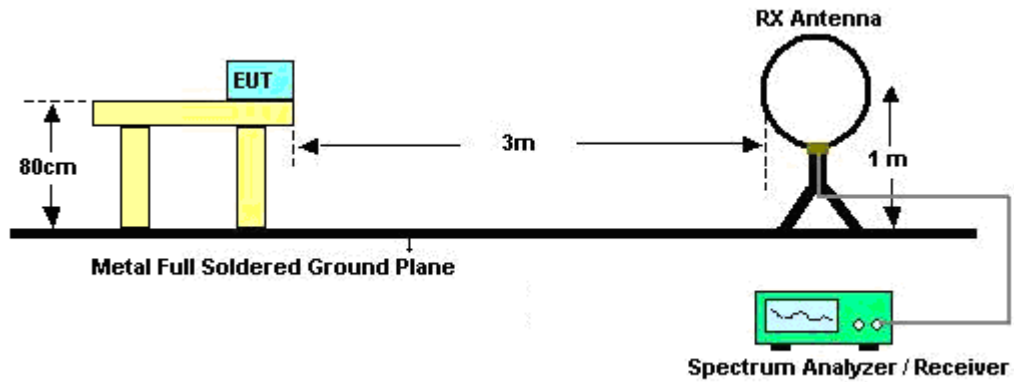


### **3.2.3 Test Procedures**

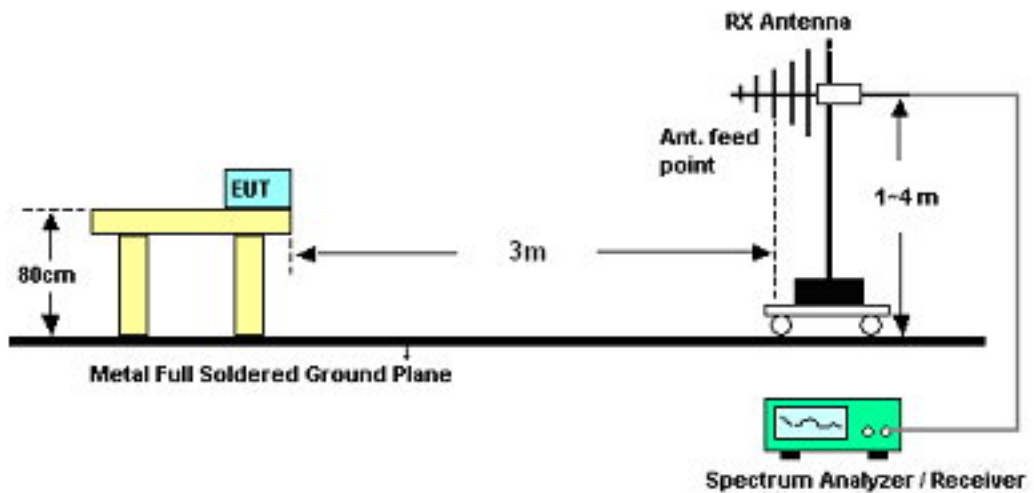
1. The testing follows TCB Workshop 2012, April and fulfills ANSI C63.4-2003 and the guidelines in ANSI C63.10-2009 test site requirement. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) 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

### 3.2.4 Test Setup

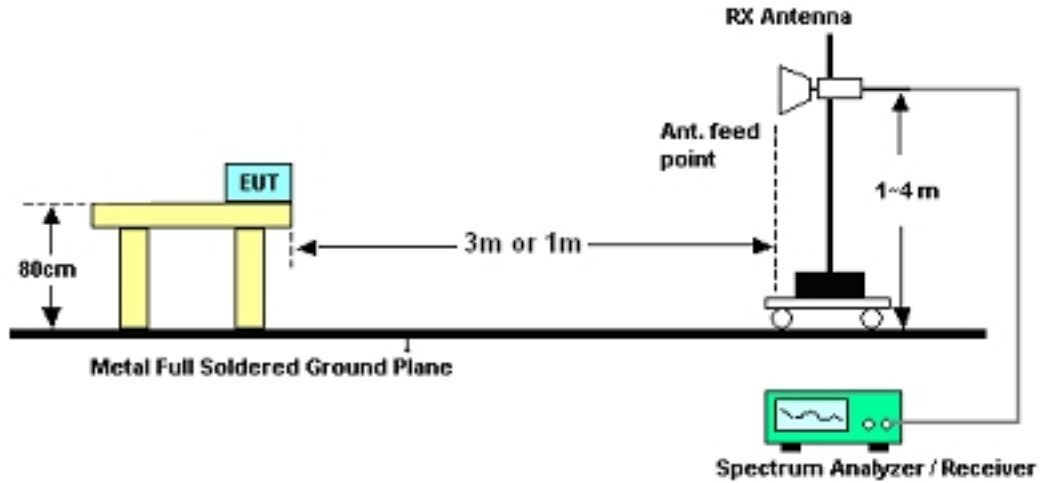
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



### 3.2.5 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.



3.2.6 Test Result of Radiated Band Edges

Test Mode :	802.11b	Temperature :	23~25°C
Test Band :	Low	Relative Humidity :	45~46%
Test Channel :	01	Test Engineer :	Steven Hao

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
2389.42	51.07	-22.93	74	48.79	32.86	3.47	34.05	100	254	Peak
2389.42	36.84	-17.16	54	34.56	32.86	3.47	34.05	100	254	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
2388.47	38.49	-15.51	54	36.21	32.86	3.47	34.05	100	25	Average
2388.47	52.75	-21.25	74	50.47	32.86	3.47	34.05	100	25	Peak

Test Mode :	802.11g	Temperature :	23~25°C
Test Band :	High	Relative Humidity :	45~46%
Test Channel :	11	Test Engineer :	Steven Hao

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
2495.44	50.18	-23.82	74	47.64	33.05	3.72	34.23	100	250	Peak
2495.44	37.41	-16.59	54	34.87	33.05	3.72	34.23	100	250	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
2495.63	49.9	-24.1	74	47.36	33.05	3.72	34.23	125	350	Peak
2495.63	37.22	-16.78	54	34.68	33.05	3.72	34.23	125	350	Average



<b>Test Mode :</b>	802.11n HT-20	<b>Temperature :</b>	23~25°C
<b>Test Band :</b>	High	<b>Relative Humidity :</b>	45~46%
<b>Test Channel :</b>	11	<b>Test Engineer :</b>	Steven Hao

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
2499.62	50.36	-23.64	74	47.82	33.05	3.72	34.23	100	250	Peak
2499.62	37.75	-16.25	54	35.21	33.05	3.72	34.23	100	250	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
2489.17	49.95	-24.05	74	47.41	33.05	3.72	34.23	100	200	Peak
2489.17	37.19	-16.81	54	34.65	33.05	3.72	34.23	100	200	Average

<b>Test Mode :</b>	802.11n HT-40	<b>Temperature :</b>	23~25°C
<b>Test Band :</b>	High	<b>Relative Humidity :</b>	45~46%
<b>Test Channel :</b>	09	<b>Test Engineer :</b>	Steven Hao

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	66.91	-7.09	74	64.42	33.01	3.68	34.2	100	325	Peak
2483.5	40.48	-13.52	54	37.99	33.01	3.68	34.2	100	325	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
2483.5	66.34	-7.66	74	63.85	33.01	3.68	34.2	100	15	Peak
2483.5	40.99	-13.01	54	38.5	33.01	3.68	34.2	100	15	Average





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

<b>Test Mode :</b>	802.11b	<b>Temperature :</b>	23~25°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	45~46%
<b>Test Engineer :</b>	Steven Hao	<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
128.94	18.87	-24.63	43.5	36.67	11.71	0.47	29.98	-	-	Peak
226.91	19.13	-26.87	46	37.76	10.67	0.63	29.93	-	-	Peak
814.73	23.3	-22.7	46	31.64	20.01	1.26	29.61	-	-	Peak
876.81	23.75	-22.25	46	31.54	20.48	1.29	29.56	-	-	Peak
905.91	32.48	-13.52	46	40.2	20.47	1.3	29.49	-	-	Peak
943.74	32.9	-13.1	46	40.39	20.71	1.33	29.53	100	254	Peak
2389.42	51.07	-22.93	74	48.79	32.86	3.47	34.05	100	254	Peak
2389.42	36.84	-17.16	54	34.56	32.86	3.47	34.05	100	254	Average
2412	86.89	-	-	84.56	32.89	3.52	34.08	190	120	Peak
2412	81.89	-	-	79.56	32.89	3.52	34.08	190	120	Average
2487.65	51.22	-22.78	74	48.68	33.05	3.72	34.23	120	54	Peak
2487.65	38.16	-15.84	54	35.62	33.05	3.72	34.23	120	54	Average



<b>Test Mode :</b>	802.11b	<b>Temperature :</b>	23~25°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	45~46%
<b>Test Engineer :</b>	Steven Hao	<b>Polarization :</b>	Vertical
<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
51.34	34.7	-5.3	40	57.34	7.21	0.28	30.13	120	0	Peak
97.9	20.54	-22.96	43.5	39.95	10.15	0.41	29.97	-	-	Peak
575.14	21.66	-24.34	46	31.72	18.55	1.04	29.65	-	-	Peak
684.75	22.98	-23.02	46	32.37	19.2	1.12	29.71	-	-	Peak
905.91	24	-22	46	31.72	20.47	1.3	29.49	-	-	Peak
946.65	32.65	-13.35	46	40.14	20.72	1.33	29.54	-	-	Peak
2388.47	38.49	-15.51	54	36.21	32.86	3.47	34.05	100	25	Average
2388.47	52.75	-21.25	74	50.47	32.86	3.47	34.05	100	25	Peak
2412	90	-	-	87.67	32.89	3.52	34.08	185	325	Peak
2412	84.97	-	-	82.64	32.89	3.52	34.08	185	325	Average
2496.77	50.76	-23.24	74	48.22	33.05	3.72	34.23	100	0	Peak
2496.77	37.04	-16.96	54	34.5	33.05	3.72	34.23	100	0	Average



<b>Test Mode :</b>	802.11g	<b>Temperature :</b>	23~25°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	45~46%
<b>Test Engineer :</b>	Steven Hao	<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
221.09	19.5	-26.5	46	38.68	10.17	0.62	29.97	-	-	Peak
616.85	22.58	-23.42	46	32.45	18.68	1.08	29.63	-	-	Peak
720.64	23.41	-22.59	46	32.39	19.53	1.15	29.66	-	-	Peak
876.81	24.64	-21.36	46	32.43	20.48	1.29	29.56	-	-	Peak
935.98	32.69	-13.31	46	40.23	20.67	1.32	29.53	100	0	Peak
946.65	31.12	-14.88	46	38.61	20.72	1.33	29.54	-	-	Peak
2328.81	50.2	-23.8	74	48.07	32.76	3.27	33.9	120	130	Peak
2328.81	37.45	-16.55	54	35.32	32.76	3.27	33.9	120	130	Average
2462	87.12	-	-	84.67	32.98	3.64	34.17	100	250	Peak
2462	75.45	-	-	73	32.98	3.64	34.17	100	250	Average
2495.44	50.18	-23.82	74	47.64	33.05	3.72	34.23	100	250	Peak
2495.44	37.41	-16.59	54	34.87	33.05	3.72	34.23	100	250	Average



<b>Test Mode :</b>	802.11g	<b>Temperature :</b>	23~25°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	45~46%
<b>Test Engineer :</b>	Steven Hao	<b>Polarization :</b>	Vertical
<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
48.43	35.79	-4.21	40	57.52	8.12	0.28	30.13	120	0	Peak
99.84	22.23	-21.27	43.5	41.28	10.5	0.41	29.96	-	-	Peak
128.94	21.56	-21.94	43.5	39.36	11.71	0.47	29.98	-	-	Peak
224	21.46	-24.54	46	40.37	10.41	0.63	29.95	-	-	Peak
875.84	24.11	-21.89	46	31.9	20.48	1.29	29.56	-	-	Peak
935.98	32.68	-13.32	46	40.22	20.67	1.32	29.53	-	-	Peak
2378.02	50.67	-23.33	74	48.43	32.83	3.42	34.01	100	125	Peak
2378.02	37.48	-16.52	54	35.24	32.83	3.42	34.01	100	125	Average
2462	89.57	-	-	87.12	32.98	3.64	34.17	100	0	Peak
2462	76.83	-	-	74.38	32.98	3.64	34.17	100	0	Average
2495.63	37.22	-16.78	54	34.68	33.05	3.72	34.23	125	350	Average
2495.63	49.9	-24.1	74	47.36	33.05	3.72	34.23	125	350	Peak



<b>Test Mode :</b>	802.11n-HT20	<b>Temperature :</b>	23~25°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	45~46%
<b>Test Engineer :</b>	Steven Hao	<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
224.97	20.7	-25.3	46	39.51	10.5	0.63	29.94	-	-	Peak
596.48	21.62	-24.38	46	31.58	18.59	1.07	29.62	-	-	Peak
663.41	22.74	-23.26	46	32.32	18.99	1.1	29.67	-	-	Peak
714.82	22.86	-23.14	46	31.95	19.45	1.14	29.68	-	-	Peak
847.71	31.49	-14.51	46	39.38	20.49	1.28	29.66	100	0	Peak
943.74	30.87	-15.13	46	38.36	20.71	1.33	29.53	-	-	Peak
2347.43	49.98	-24.02	74	47.81	32.78	3.33	33.94	100	100	Peak
2347.43	36.77	-17.23	54	34.6	32.78	3.33	33.94	100	100	Average
2462	88.65	-	-	86.2	32.98	3.64	34.17	110	54	Peak
2462	72.35	-	-	69.9	32.98	3.64	34.17	110	54	Average
2499.62	50.36	-23.64	74	47.82	33.05	3.72	34.23	100	250	Peak
2499.62	37.75	-16.25	54	35.21	33.05	3.72	34.23	100	250	Average



<b>Test Mode :</b>	802.11n-HT20	<b>Temperature :</b>	23~25°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	45~46%
<b>Test Engineer :</b>	Steven Hao	<b>Polarization :</b>	Vertical
<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
49.4	35.82	-4.18	40	57.92	7.75	0.28	30.13	115	25	Peak
128.94	22.33	-21.17	43.5	40.13	11.71	0.47	29.98	-	-	Peak
222.06	21.48	-24.52	46	40.58	10.25	0.62	29.97	-	-	Peak
551.86	22.57	-23.43	46	32.75	18.5	1	29.68	-	-	Peak
845.77	32.13	-13.87	46	40.04	20.47	1.28	29.66	-	-	Peak
935.98	31.03	-14.97	46	38.57	20.67	1.32	29.53	-	-	Peak
2340.02	50.2	-23.8	74	48.03	32.78	3.33	33.94	120	263	Peak
2340.02	37.41	-16.59	54	35.24	32.78	3.33	33.94	120	263	Average
2462	91.18	-	-	88.73	32.98	3.64	34.17	120	0	Peak
2462	75.14	-	-	72.69	32.98	3.64	34.17	120	0	Average
2489.17	49.95	-24.05	74	47.41	33.05	3.72	34.23	100	200	Peak
2489.17	37.19	-16.81	54	34.65	33.05	3.72	34.23	100	200	Average



<b>Test Mode :</b>	802.11n-HT40	<b>Temperature :</b>	23~25°C
<b>Test Channel :</b>	09	<b>Relative Humidity :</b>	45~46%
<b>Test Engineer :</b>	Steven Hao	<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
128.94	20.72	-22.78	43.5	38.52	11.71	0.47	29.98	-	-	Peak
225.94	33.65	-12.35	46	52.37	10.59	0.63	29.94	-	-	Peak
583.87	21.67	-24.33	46	31.69	18.57	1.05	29.64	-	-	Peak
828.31	23.26	-22.74	46	31.38	20.24	1.27	29.63	-	-	Peak
845.77	37.47	-8.53	46	45.38	20.47	1.28	29.66	100	100	Peak
944.71	34.21	-11.79	46	41.71	20.71	1.33	29.54	-	-	Peak
2340.78	37.04	-16.96	54	34.87	32.78	3.33	33.94	100	25	Average
2340.78	50.85	-23.15	74	48.68	32.78	3.33	33.94	100	25	Peak
2462	87.44	-	-	84.99	32.98	3.64	34.17	190	160	Peak
2462	72.43	-	-	69.98	32.98	3.64	34.17	190	160	Average
2483.5	66.91	-7.09	74	64.42	33.01	3.68	34.2	100	325	Peak
2483.5	40.48	-13.52	54	37.99	33.01	3.68	34.2	100	325	Average



<b>Test Mode :</b>	802.11n-HT40	<b>Temperature :</b>	23~25°C
<b>Test Channel :</b>	09	<b>Relative Humidity :</b>	45~46%
<b>Test Engineer :</b>	Steven Hao	<b>Polarization :</b>	Vertical
<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
50.37	35.68	-4.32	40	58.13	7.4	0.28	30.13	130	256	Peak
128.94	21.26	-22.24	43.5	39.06	11.71	0.47	29.98	-	-	Peak
226.91	20.78	-25.22	46	39.41	10.67	0.63	29.93	-	-	Peak
744.89	23.25	-22.75	46	31.76	19.86	1.18	29.55	-	-	Peak
847.71	25.44	-20.56	46	33.33	20.49	1.28	29.66	-	-	Peak
935.98	32.69	-13.31	46	40.23	20.67	1.32	29.53	-	-	Peak
2340.97	50.75	-23.25	74	48.58	32.78	3.33	33.94	100	0	Peak
2340.97	36.73	-17.27	54	34.56	32.78	3.33	33.94	100	0	Average
2462	88.62	-	-	86.17	32.98	3.64	34.17	100	345	Peak
2462	72.51	-	-	70.06	32.98	3.64	34.17	100	345	Average
2483.5	40.99	-13.01	54	38.5	33.01	3.68	34.2	100	15	Average
2483.5	66.34	-7.66	74	63.85	33.01	3.68	34.2	100	15	Peak



### 3.3 AC Conducted Emission Measurement

#### 3.3.1 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.

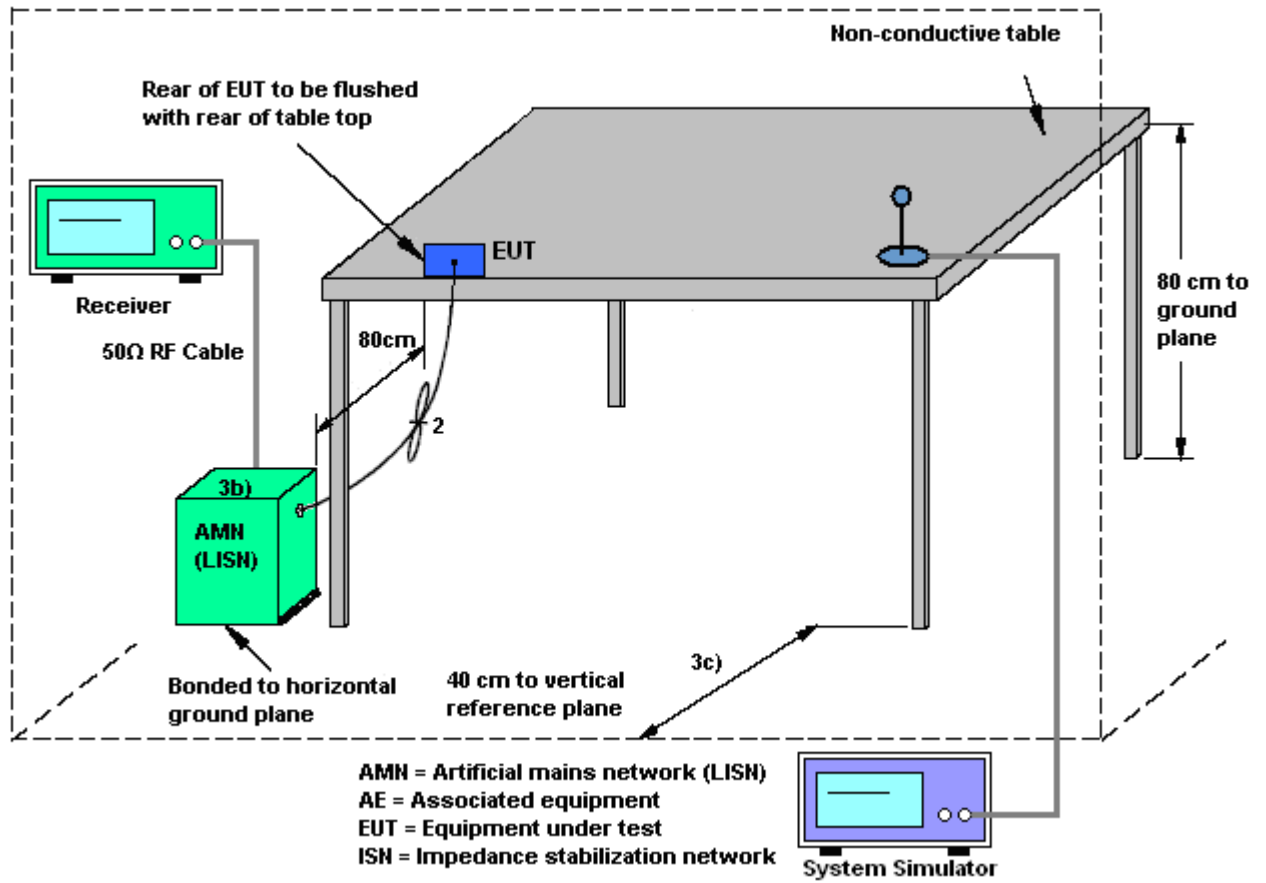
#### 3.3.2 Measuring Instruments

See list of measuring instruments of this test report.

#### 3.3.3 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.

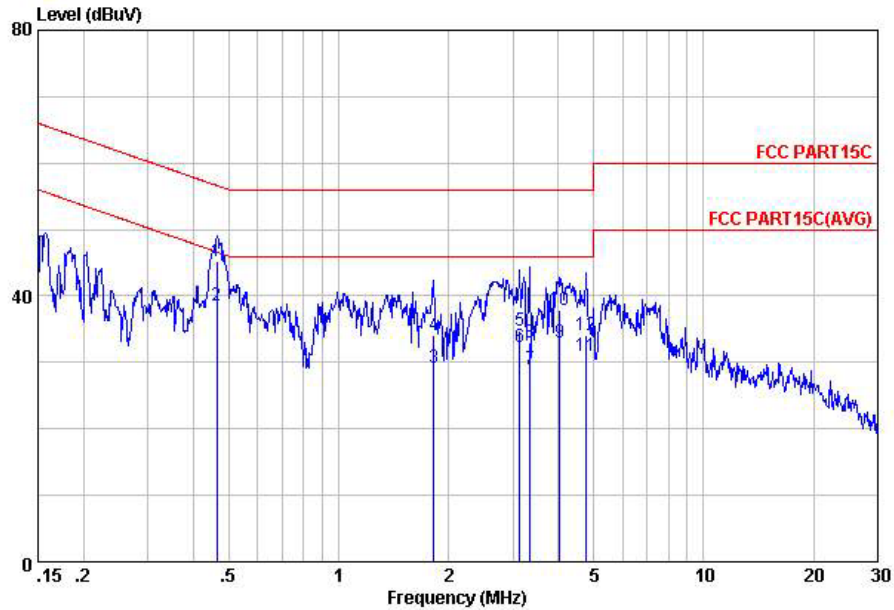
### 3.3.4 Test Setup





3.3.5 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 :	WCDMA Band V Idle + Adapter + LAN Link + WLAN Link + TC		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

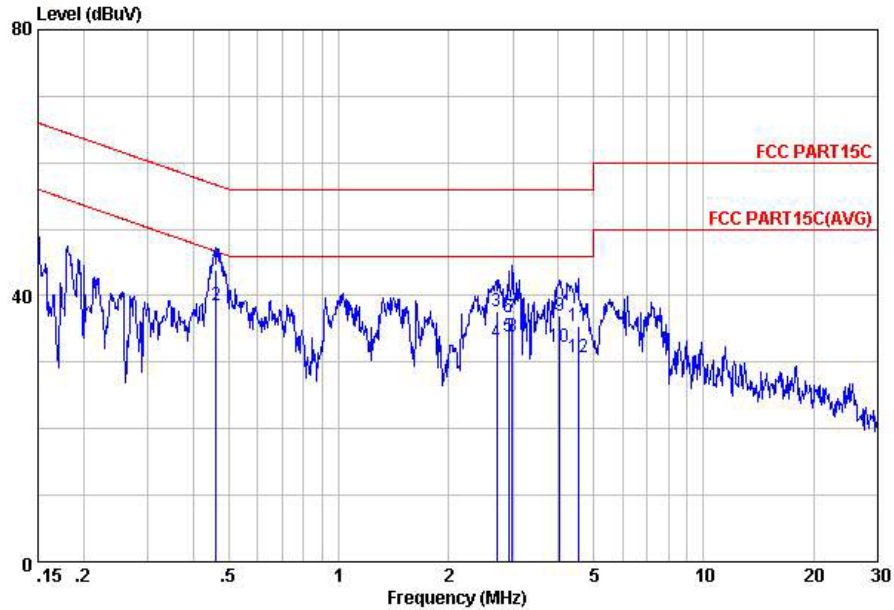


Site : C001-KS  
 Condition: FCC PART15C LISN-111230 LINE  
 Project : (FR) 251501-01  
 mode : Mode 1

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1	0.46	45.14	-11.49	56.63	34.60	-0.08	10.62	QP
2	0.46	38.44	-8.19	46.63	27.90	-0.08	10.62	Average
3	1.82	29.09	-16.91	46.00	18.50	-0.11	10.70	Average
4	1.82	34.09	-21.91	56.00	23.50	-0.11	10.70	QP
5	3.14	34.78	-21.22	56.00	24.10	-0.12	10.80	QP
6	3.14	32.38	-13.62	46.00	21.70	-0.12	10.80	Average
7	3.35	28.89	-17.11	46.00	18.20	-0.12	10.81	Average
8	3.35	32.99	-23.01	56.00	22.30	-0.12	10.81	QP
9	4.03	32.90	-13.10	46.00	22.20	-0.13	10.83	Average
10	4.03	37.80	-18.20	56.00	27.10	-0.13	10.83	QP
11	4.77	30.92	-15.08	46.00	20.21	-0.13	10.84	Average
12	4.77	34.12	-21.88	56.00	23.41	-0.13	10.84	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 :	WCDMA Band V Idle + Adapter + LAN Link + WLAN Link + TC		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : C001-K3  
 Condition: FCC PART15C LISN-111230 NEUTRAL  
 Project : (FR) 251501-01  
 mode : Mode 1

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1	0.46	43.94	-12.73	56.67	33.40	-0.08	10.62	QP
2	0.46	38.44	-8.23	46.67	27.90	-0.08	10.62	Average
3	2.71	37.73	-18.27	56.00	27.09	-0.11	10.75	QP
4	2.71	32.93	-13.07	46.00	22.29	-0.11	10.75	Average
5	2.92	33.86	-12.14	46.00	23.20	-0.12	10.78	Average
6	2.92	36.66	-19.34	56.00	26.00	-0.12	10.78	QP
7	2.99	36.77	-19.23	56.00	26.11	-0.12	10.78	QP
8	2.99	33.77	-12.23	46.00	23.11	-0.12	10.78	Average
9	4.03	37.00	-19.00	56.00	26.30	-0.13	10.83	QP
10	4.03	32.30	-13.70	46.00	21.60	-0.13	10.83	Average
11	4.53	35.41	-20.59	56.00	24.70	-0.13	10.84	QP
12	4.53	30.71	-15.29	46.00	20.00	-0.13	10.84	Average



## **3.4 Antenna Requirements**

### **3.4.1 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.

### **3.4.2 Antenna Connected Construction**

Non-standard connector used.

### **3.4.3 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
AC Power Source	Chroma	61602	ABP00000 0811	N/A	Nov. 16, 2011	Jul. 17, 2012	Nov. 15, 2012	Conducted (TH01-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz	Jun. 01, 2012	Jul. 06, 2012	May 31, 2013	Conduction (CO01-KS)
LISN	MessTec	AN3016	60103	9kHz~30MHz	Dec. 30, 2011	Jul. 06, 2012	Dec. 29, 2012	Conduction (CO01-KS)
LISN	MessTec	AN3016	60105	9kHz~30MHz	Dec. 30, 2011	Jul. 06, 2012	Dec. 29, 2012	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP00000 0811	N/A	Nov. 16, 2011	Jul. 06, 2012	Nov. 15, 2012	Conduction (CO01-KS)
System Simulator	R&S	CMU200	837587/06 6	2G Full-Band	Dec. 30, 2011	Jul. 06, 2012	Dec. 29, 2012	Conduction (CO01-KS)
EMI Test Receiver	R&S	ESCI	100534	9kHz~3GHz	Nov. 09, 2011	Jul. 18, 2012	Nov. 08, 2012	Radiation (03CH01-KS)
Spectrum Analyzer	R&S	FSP40	100319	9kHz~40GHz	Dec. 30, 2011	Jul. 18, 2012	Dec. 29, 2012	Radiation (03CH01-KS)
Bilog Antenna	SCHAFFNER	CBL6112D	23182	25MHz~2GHz	Dec. 08, 2011	Jul. 18, 2012	Dec. 07, 2012	Radiation (03CH01-KS)
Loop Antenna	R&S	HFH2-Z2	860004/00	9 kHz~30 MHz	Jul. 28, 2011	Jul. 18, 2012	Jul. 27, 2012	Radiation (03CH01-KS)
Double Ridge Horn Antenna	EMCO	3117	00075959	1GHz~18GHz	Jan. 06, 2012	Jul. 18, 2012	Jan. 05, 2013	Radiation (03CH01-KS)
Amplifier	Wireless	FPA-6592G	060004	30MHz~2GHz	Dec. 30, 2011	Jul. 18, 2012	Dec. 29, 2012	Radiation (03CH01-KS)
Amplifier	Agilent	8449B	3008A023 70	1GHz~26.5GHz	Dec. 30, 2011	Jul. 18, 2012	Dec. 29, 2012	Radiation (03CH01-KS)
Active Horn Antenna	com-power	AHA-118	701023	1GHz~18GHz	Nov. 07, 2011	Jul. 18, 2012	Nov. 06, 2012	Radiation (03CH01-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	BBHA1702 49	15GHz~40GHz	Oct. 11, 2011	Jul. 18, 2012	Oct.10, 2012	Radiation (03CH01-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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