47 CFR PART 15 SUBPART B

TEST REPORT

of

CDMA/GSM dual mode mobile phone

Model Name: CG 100
Brand Name: TechFaith
Report No.: SZ08040102E01
FCC ID: UJQ-11855T

prepared for

TechFaith Wireless Communication Technology (Shanghai) Limited.
Floor 6, Building 8, No. 3000 LongDong Avenue, Pudong District, Shanghai(201203)

Prepared by:

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1. TEST CERTIFICATION

Equipment under Test:	CDMA/GSM dual mode mobile phone
Brand Name:	TechFaith
Model Name:	CG 100
FCC ID:	UJQ-11855T
Applicant:	TechFaith Wireless Communication Technology (Shanghai) Limited. Floor 6, Building 8, No. 3000 LongDong Avenue, Pudong District, Shanghai(201203)
Manufacturer:	Techfaith Wireless Communication Technology (Shanghai) Limited Floor 6, Building 8, No. 3000 Long Dong Avenue, Pudong District, Shanghai (201203)
Emission Designator:	CDMA: 1M25F9W GSM: 300KGXW
Test Standards:	47 CFR Part 15 Subpart B
Test Date(s):	June 17, 2008 – July 10, 2008
Test Result:	PASS

*** We Hereby Certify That:**

The equipment under test was tested by Shenzhen Electronic Product Quality Testing Center Morlab Laboratory. The test data, data evaluation, test procedures and equipment configurations shown in this report were made in accordance with the requirement of related FCC rules.

The test results of this report only apply for the tested sample equipment identified above. The test report shall be invalid without all the signatures of the test engineer, the reviewer and the approver.

Tested by: Ni Yong Dated: 2008.07.14
Ni Yong

Reviewed by: Dated: 2008.07.14
Wei Yanquan

Approved by: Dated: 2008.07.14
Shu Luan

2. GENERAL INFORMATION

2.1 EUT Description

EUT Type ..... CDMA/GSM dual mode mobile phone
Model Name..... CG 100
Serial No. ..... (n.a, marked #1 by test site)
IMEI 00000000000000
Hardware Version..... P2
Software Version HACG100MT01
Modulation Type ..... GMSK
Power Supply ..... Battery
Brand name: XWODA
Mode no.: 523450
Capacitance: 950mAh
Rated voltage: 3.7V
Manufacturer: XWORD
Manufacturer Address: Building C, Tong fu kang industrial Zone, Shiyan Town, Baoan District, Shenzhen, China [518108]
Ancillary Equipment 1 ... AC Adapter (Charger for Battery)
Model Name: STC-A22O50U5-A
Brand Name: RuiDe
Serial No.: (n.a. marked #1 by test site)
Rated Input: ~ 100-240V, 0.15A,
Rated Output: ⎓ 5V, 700mA
Manufacturer: SHENZHEN RUIDE ELECTRONICAL INDUSTRIAL CO., LTD
Manufacturer Address: 2ND floor, block 2, MinQi Scientific Zone, HongHua Mountain, NanShan District, Shenzhen.
Wire Length: 120cm

Note 1: The EUT is a CDMA/GSM dual mode and Simultaneous-Dual Mobile phone; it supports GSM900, 1800MHz, 1900MHza and CDMA 800MHz. Only GSM1900MHz and CDMA 800MHz bands are tested in this report.

Note 2: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.

2.2 Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 15 Subpart B:

No.	Identity	Document Title
1	47 CFR Part 15 (10-1-05 Edition)	Radio Frequency Devices

Test detailed items/section required by FCC rules and results are as below:

No.	Section	Description	Result	Test date
1	15.107	Conducted Emission	PASS	2008.06.17
2	15.109	Radiated Emission	PASS	2008.06.18

NOTE:

The tests were performed according to the method of measurements prescribed in ANSI C63.4 2003.

2.3 Facilities and Accreditations

2.3.1 Facilities

Shenzhen Electronic Product Quality Testing Center Morlab Laboratory is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L1659.

All measurement facilities used to collect the measurement data are located at Electronic Testing Building, Shahe Road, Xili, Nanshan District, Shenzhen 518055 CHINA. The test site is constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22; the FCC registration number is 741109.

2.3.2 Test Environment Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	20 - 25
Relative Humidity (%):	40 - 60
Atmospheric Pressure (kPa):	96-106

3. TEST CONDITIONS SETTING

3.1 Test Mode

During the measurement, there are three Test Modes that will be tested in Conducted Emission and Radiated Emission. These test modes are showed as below:

(1) The first test mode: traffic operating mode

The EUT configuration of the emission tests is EUT + Battery + Charger.

Before the measurement, the lithium battery was completely discharged.

During the measurement, the lithium battery was installed into the EUT, and the charger was connected to the EUT. A communication link was established between the EUT and a System Simulator (SS). The EUT operated at GSM 1900MHz maximum output power (PCL=0).

(2) The second test mode: idle mode

The EUT configuration of the emission tests is EUT + Battery + Charger.

Before the measurement, the lithium battery was completely discharged.

During the measurement, the lithium battery was installed into the EUT, and the charger was connected to the EUT. No communication link was established between the EUT and a System Simulator (SS).

(3)The third test mode

The EUT configuration of the emission tests is EUT + Battery + PC.

The EUT is connected with a PC via a special USB cable supplied by applicant. During the measurement, a communication link was established between the EUT and a System Simulator (SS), simultaneity, the date is transmitting between the PC and the EUT.

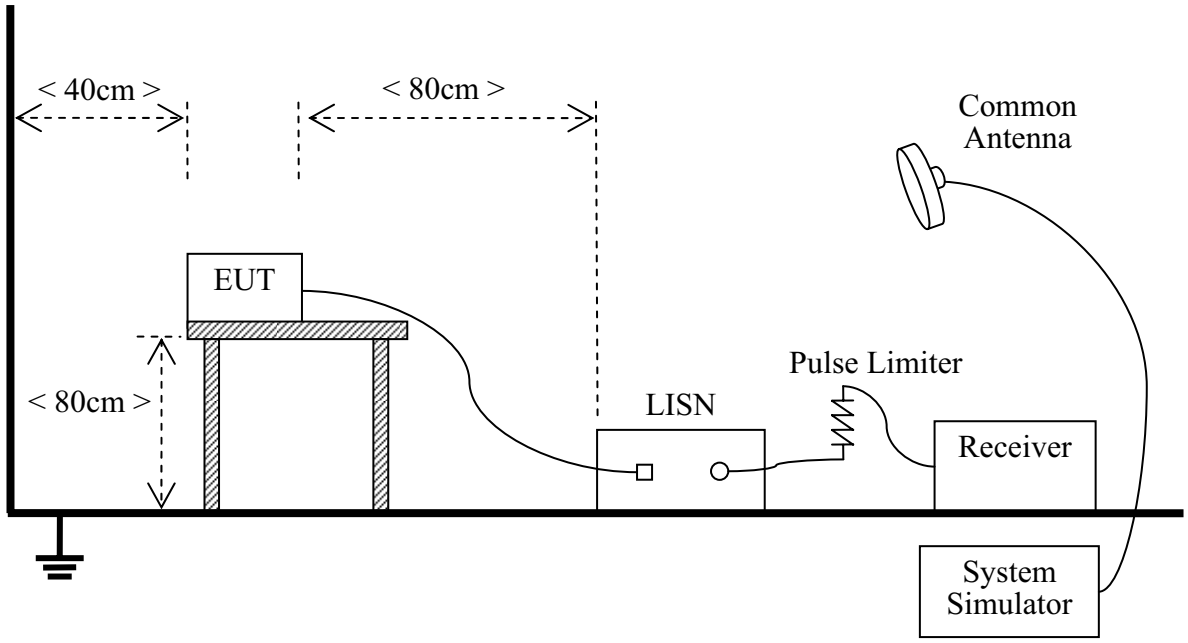
NOTE: The first test mode and the second test mode were both tested, and only the worst cases are recorded in this report..

The third test mode was only tested in Radiated Disturbance.

3.2 Test Setup and Equipments List

3.2.1 Conducted Emission

A. Test Setup:



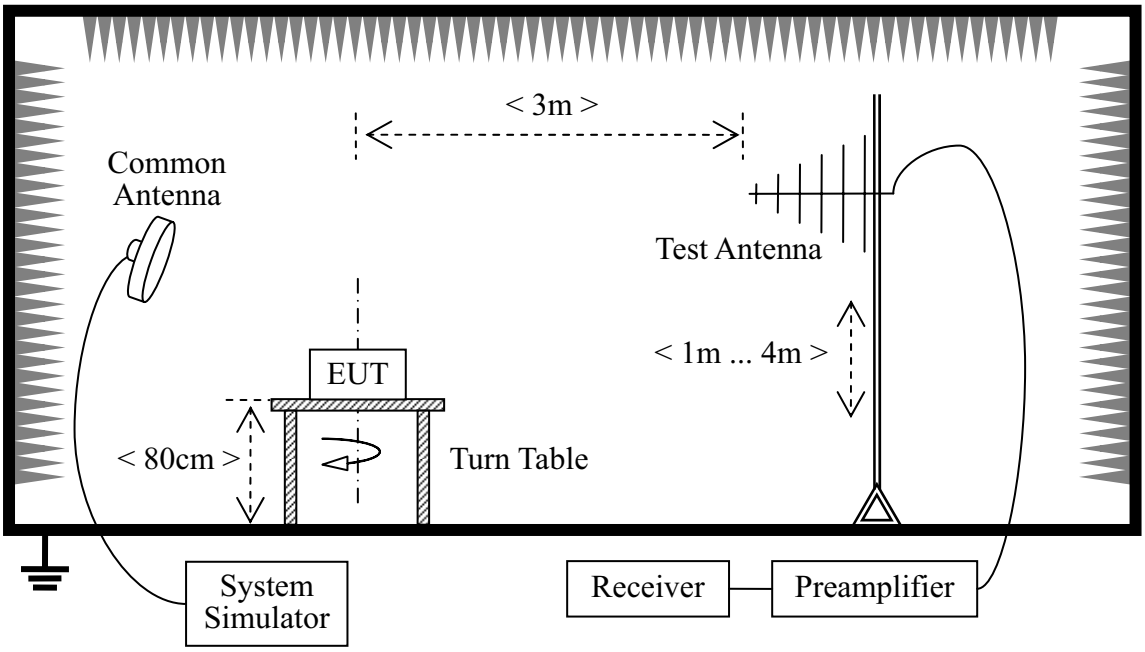
The EUT is placed on a 0.8m high insulating table, which stands on the grounded conducting floor, and keeps 0.4m away from the grounded conducting wall. The EUT is connected to the power mains through a LISN which provides 50Ω/50μH of coupling impedance for the measuring instrument. The Common Antenna is used for the call between the EUT and the System Simulator (SS). A Pulse Limiter is used to protect the measuring instrument. The factors of the whole test system are calibrated to correct the reading.

B. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Receiver	Agilent	E7405A	US44210471	2007.07	1year
LISN	Schwarzbeck	NSLK 8127	812744	2006.08	1year
Pulse Limiter (20dB)	Schwarzbeck	VTSD 9561-D	9391	(n.a.)	(n.a.)
System Simulator	Agilent	E5515C	GB43130131	2007.06	1year
Personal Computer	HP	Pavilion ze2202	CNF5460DNL	(n.a.)	(n.a.)

3.2.2 Radiated Emission

C. Test Setup:



The test is performed in a 3m Semi-Anechoic Chamber; the antenna factor, cable loss and so on of the site (factors) is calculated to correct the reading. The EUT is placed on a 0.8m high insulating Turn Table, and keeps 3m away from the Test Antenna, which is mounted on a variable-height antenna master tower. The Common Antenna is used for the call between the EUT and the System Simulator (SS).

D. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Receiver	Agilent	E7405A	US44210471	2007.07	1year
Full-Anechoic Chamber	Albatross	9m*6m*6m	(n.a.)	2006.08	2year
Test Antenna - Bi-Log	Schwarzbeck	VULB 9163	9163-274	2007.07	1year
Test Antenna - Horn	Schwarzbeck	BBHA 9120C	9120C-384	2007.07	1year
System Simulator	Agilent	E5515C	GB43130131	2007.06	1year
Personal Computer	HP	Pavilion ze2202	CNF5460DNL	(n.a.)	(n.a.)
Wireless Router	(n.a.)	D-Link	BN64448000052	(n.a.)	(n.a.)
Bluetooth-Headset	Nokia	HS-36W	(n.a.)	(n.a.)	(n.a.)

4. 47 CFR PART 15B REQUIREMENTS

4.1 Conducted Emission

4.1.1 Requirement

According to FCC section 15.107, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150kHz to 30MHz shall not exceed the limits in the following table, as measured using a 50μH/50Ω line impedance stabilization network (LISN).

Frequency range (MHz)	Conducted Limit (dBμV)	
	Quai-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
5 - 30	60	50

NOTE:

a) The limit subjects to the Class B digital device.

b) The lower limit shall apply at the band edges.

c) The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50MHz.

4.1.2 Test Description

See section 3.2.1 of this report.

4.1.3 Test Result

The maximum conducted interference is searched using Peak (PK), Quasi-peak (QP) and Average (AV) detectors; the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. All test modes are considered, refer to recorded points and plots below.

4.1.3.1 The first test mode

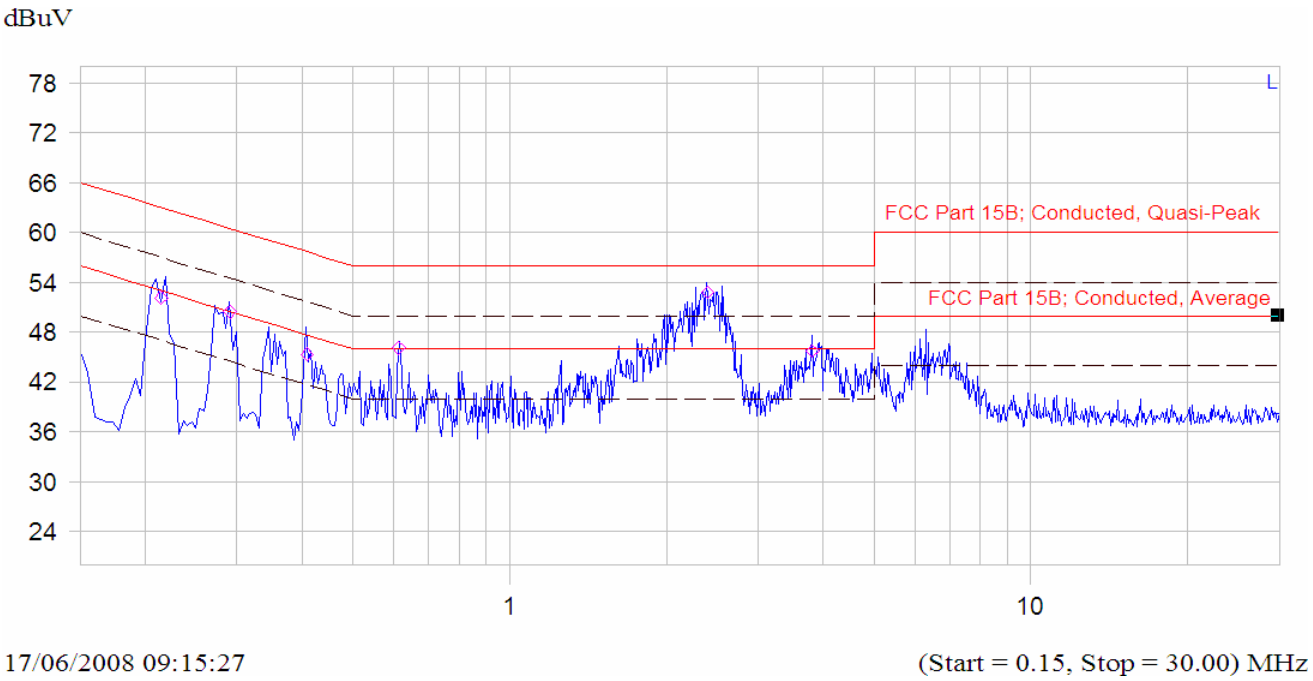
The EUT configuration of the emission tests is EUT + Battery + Charger.

A. Test Verdict Recorded for Suspicious Points:

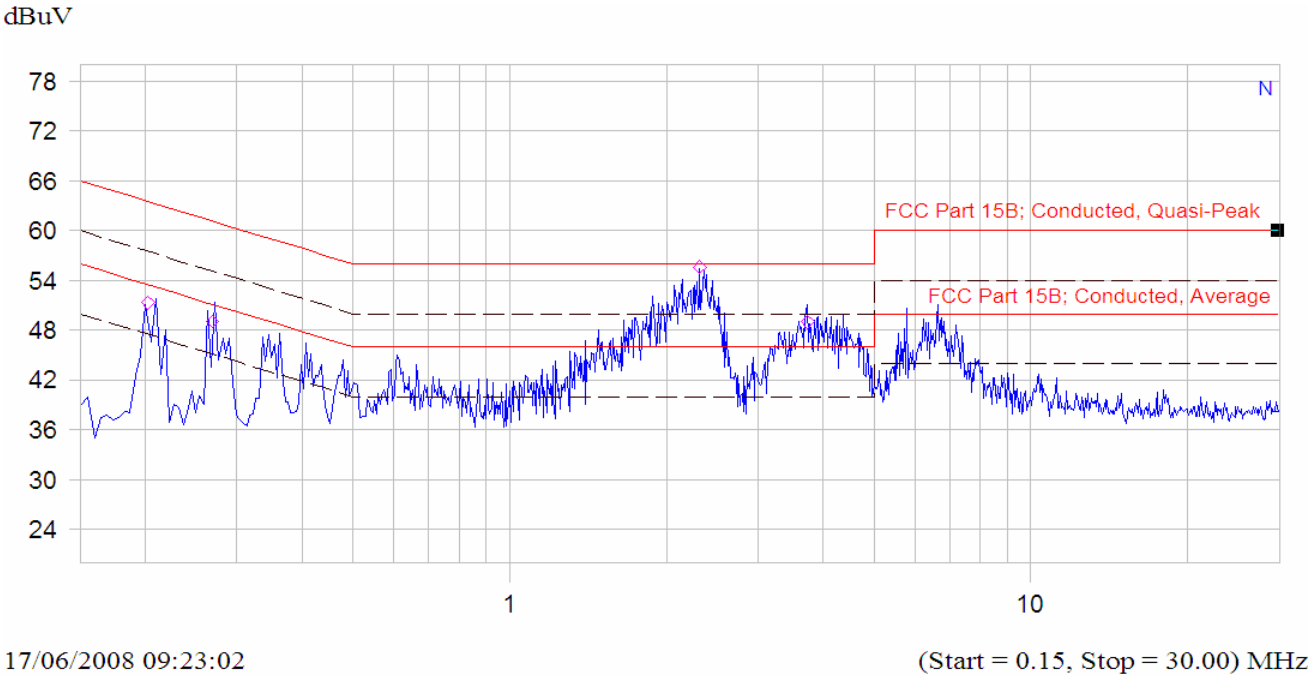
No.	@Frequency (MHz)	Measured Emission Level (dBμV)				Limit (dBμV)		Verdict
		PK	QP	AV	Phase	QP	AV	
1	0.215	52.5	47.5	31.5	L	63	53	PASS

No.	@Frequency (MHz)	Measured Emission Level (dBμV)				Limit (dBμV)		Verdict
		PK	QP	AV	Phase	QP	AV	
2	0.291	50.5	45.3	27.8	L	60.5	50.5	PASS
3	0.409	45.4	39.8	29.4	L	57.7	47.7	PASS
4	0.613	46.1	42.8	32.1	L	56.0	46.0	PASS
5	2.401	52.8	46.4	33.4	L	56.0	46.0	PASS
6	3.814	45.7	39.1	27.1	L	56.0	46.0	PASS
7	0.203	51.3	46.1	34.1	N	63.5	53.5	PASS
8	0.269	49.1	43.8	31.7	N	61.1	51.1	PASS
9	2.316	55.6	49.2	36.6	N	56.0	46.0	PASS
10	3.727	49.0	42.5	30.4	N	56.0	46.0	PASS

B. Test Plot:



(Plot A: L Phase)



(Plot B: N Phase)

4.2 Radiated Emission

4.2.1 Requirement

According to FCC section 15.109, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency range (MHz)	Field Strength	
	μV/m	dBμV/m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

NOTE:

a) Field Strength (dBμV/m) = 20*log[Field Strength (μV/m)].

b) In the emission tables above, the tighter limit applies at the band edges.

4.2.2 Test Description

See section 3.2.2 of this report.

4.2.3 Test Result

The maximum radiated emission is searched using PK and QP; the emission levels more than the limits, and that have narrow margins from the limits will be re-measured QP detectors. Both the vertical and the horizontal polarizations of the Test Antenna are considered to perform the tests. All test modes are considered, refer to recorded points and plots below.

4.2.3.1 The first test mode

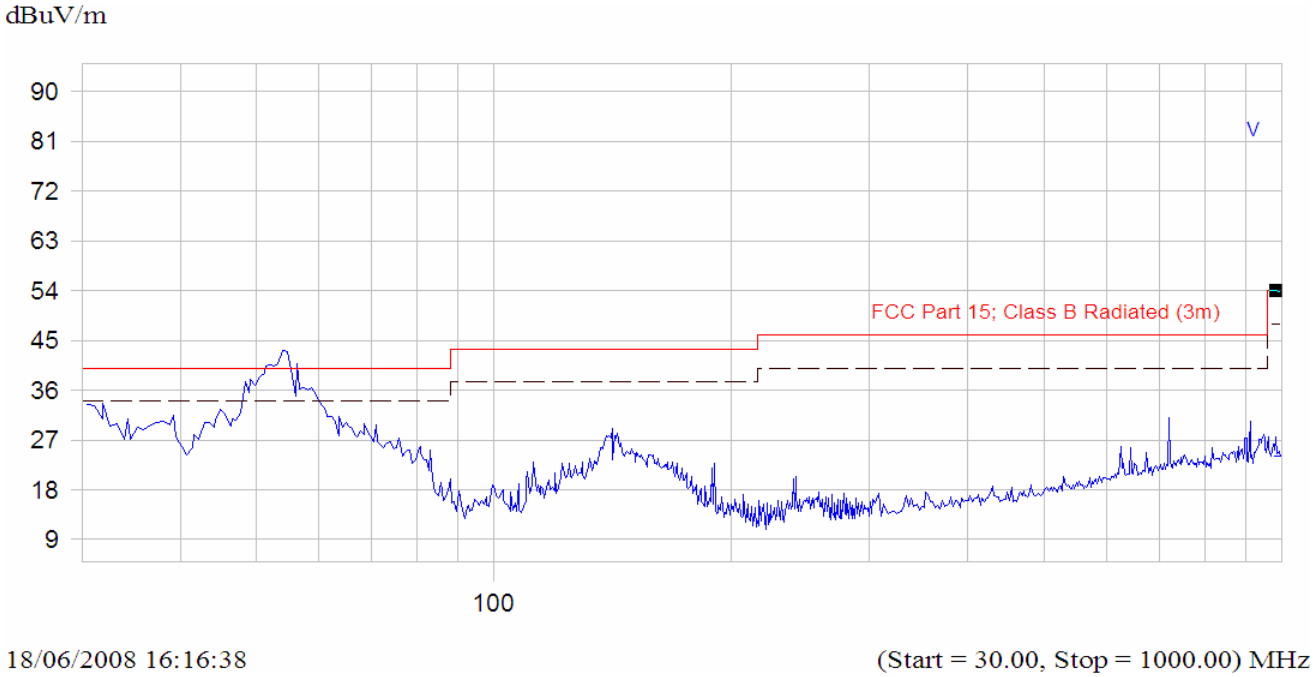
The EUT configuration of the emission tests is EUT + Battery + Charger.

A. Test Verdict Recorded for Suspicious Points:

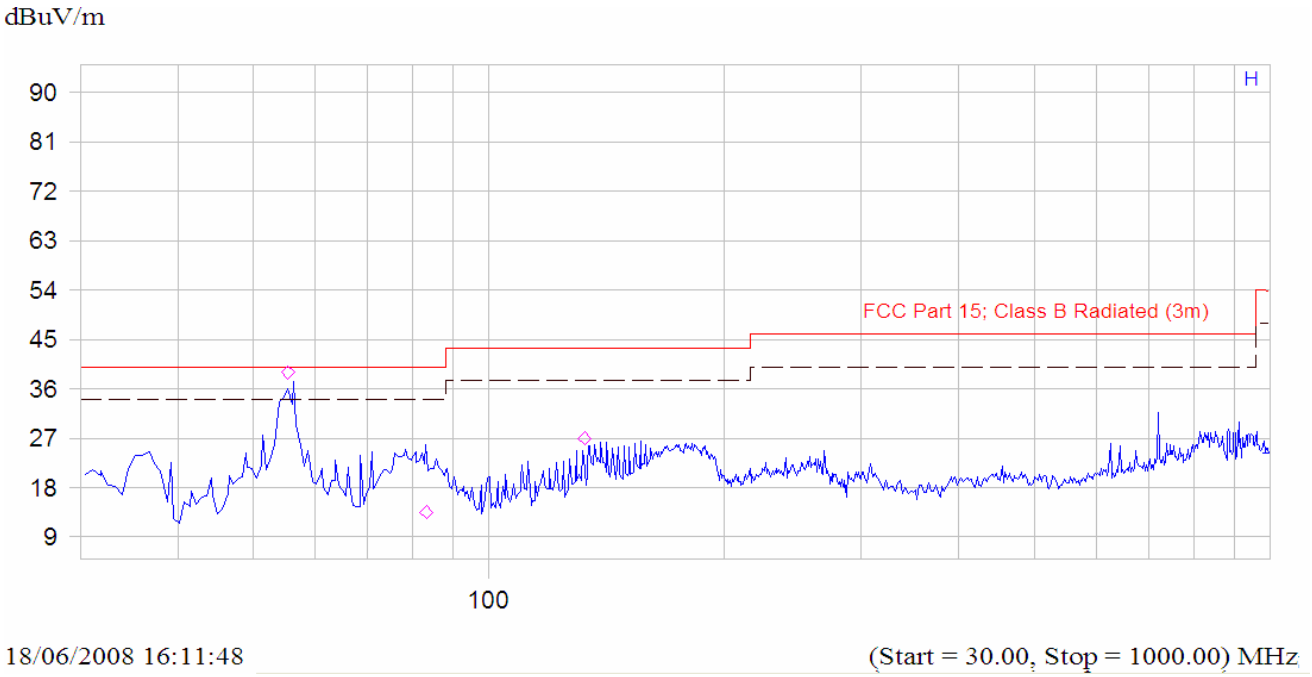
No.	@Frequency (MHz)	Emission Level (dBμV/m)			Quasi-Peak Limit (dBμV/m)	Result
		PK	QP	Antenna Polarization		
1	54.02	43.9	38.2	Vertical	40	PASS
2	140.89	26.2	21.4	Vertical	43.5	PASS
3	55.32	39.0	33.1	Horizontal	40	PASS
4	83.28	13.50	7.40	Horizontal	40	PASS
6	132.707	27.0	23.0	Horizontal	40	PASS

B. Test Plot:

Note: Following is the plots for emission measurement; please note that marked spikes with circle should be ignored because they are MS and SS carrier frequency.



(Plot A: Test Antenna Vertical)



(Plot B: Test Antenna Horizontal)

4.2.3.2 The second test mode

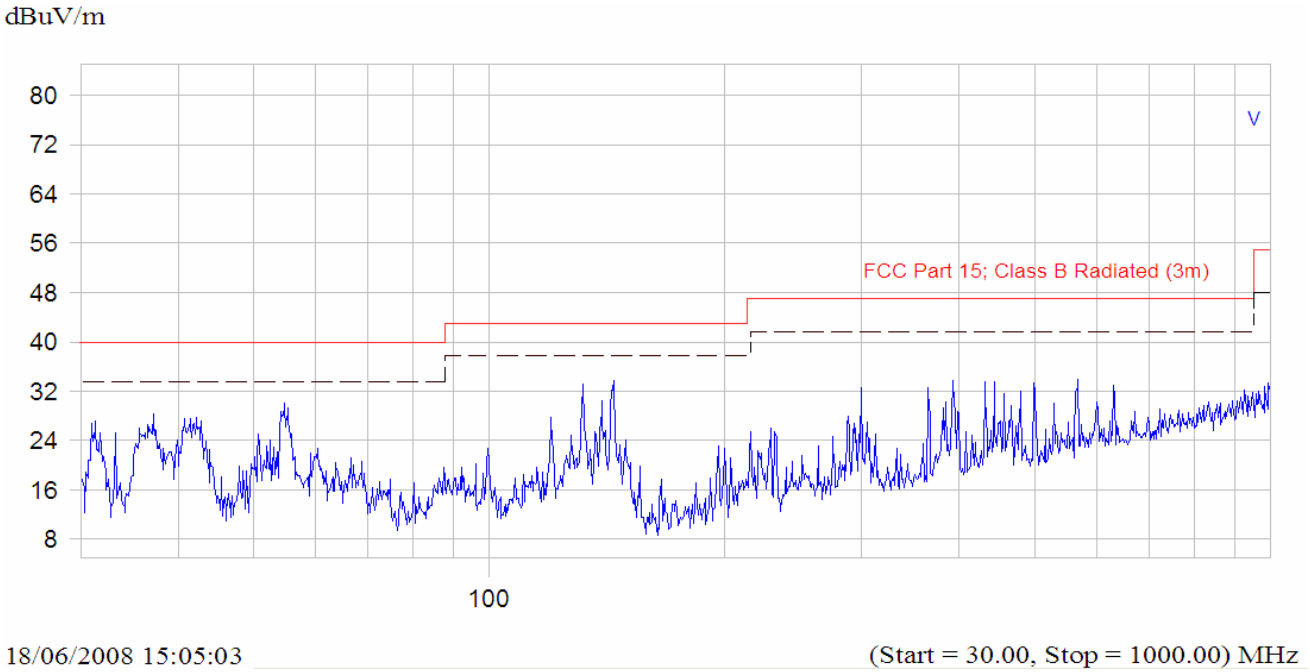
The EUT configuration of the emission tests is EUT + Battery + PC.

A. Test Verdict Recorded for Suspicious Points:

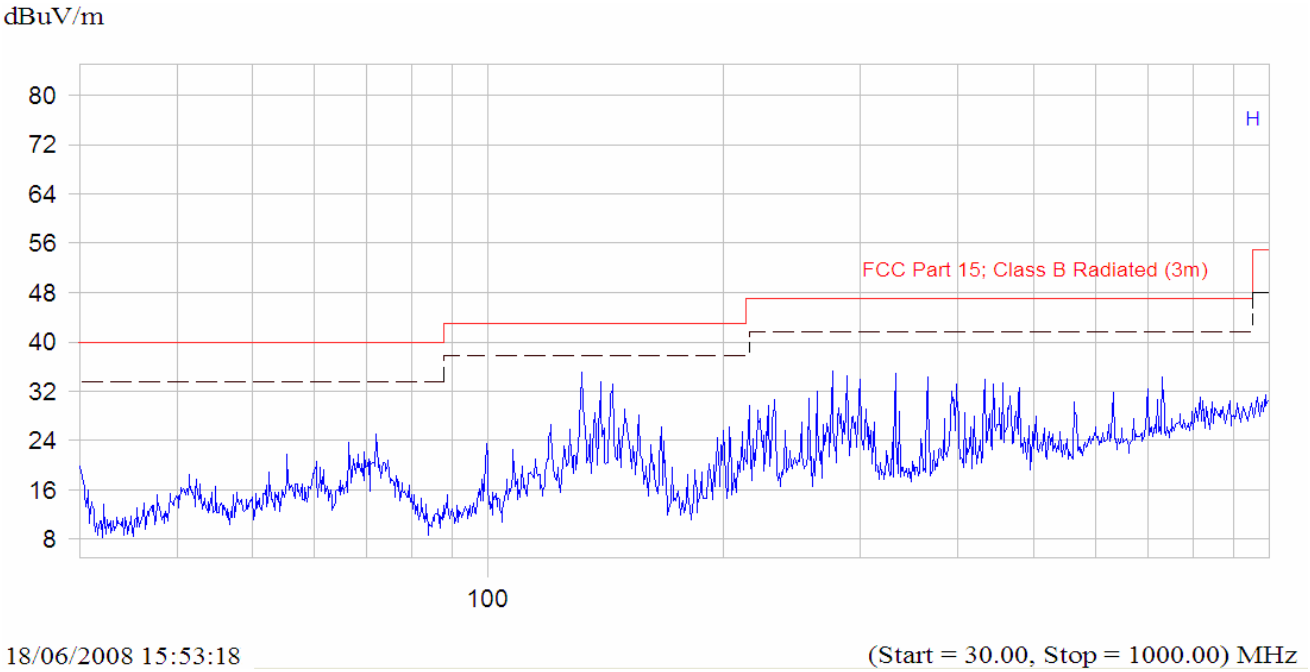
No.	@Frequency (MHz)	Emission Level (dBμV/m)			Quasi-Peak Limit (dBμV/m)	Result
		PK	QK	Antenna Polarization		
1	132.102	32.4	-----	Horizontal	40.0	PASS
2	143.933	32.3	-----	Horizontal	40.0	PASS
3	305.042	33.5	-----	Horizontal	47.0	PASS
4	334.014	33.0	-----	Horizontal	47.0	PASS
5	445.135	32.2	-----	Horizontal	47.0	PASS
6	730.103	34.4	-----	Horizontal	47.0	PASS
7	54.051	29.2	-----	Vertical	40.0	PASS
8	143.920	32.3	-----	Vertical	40.0	PASS
9	232.413	25.7	-----	Vertical	47.0	PASS
10	300.015	31.9	-----	Vertical	47.0	PASS
11	392.380	33.0	-----	Vertical	47.0	PASS
12	497.689	32.7	-----	Vertical	47.0	PASS
13	566.342	31.8	-----	Vertical	47.0	PASS

B. Test Plot:

Note: Following is the plots for emission measurement; please note that marked spikes with circle should be ignored because they are MS and SS carrier frequency.



(Plot A: Test Antenna Vertical)



(Plot B: Test Antenna Horizontal)

** END OF REPORT **