



NVLAP LAB CODE 200707-0



FCC PART 15.247

## MEASUREMENT AND TEST REPORT

For

**FIYING TECHNOLOGY DEVELOPMENT CO., LTD**

Rm.2312, 23/F.Metropolis tower, 10 Metroplous Drive,

Hung Hom, Kowloon, Hong Kong

**FCC ID: XJS20070901**

<b>Report Type:</b> Class II Permissive Change	<b>Product Type:</b> GSM&GPRS Dual Standby Mobile Phone
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<b>Report Number:</b>	RSZA09063001-BT
<b>Report Date:</b>	2009-07-16
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**Note:** This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Shenzhen). This report **must not** be used by the customer to claim product certification, approval, or endorsement by NVLAP\*, NIST, or any agency of the Federal Government.

\* This report may contain data that are not covered by the NVLAP accreditation and are marked with an asterisk "\*" Rev. 2.0

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## GENERAL INFORMATION

### Product Description for Equipment under Test (EUT)

The *FIYING TECHNOLOGY DEVELOPMENT CO., LTD*'s product, model number: *F818, F828, D9*(FCC ID: *XJS20070901*) or the "EUT" as referred to in this report is a *GSM&GPRS Dual Standby Mobile Phone*, which measures approximately: 10.3 cm L x 5.3 cm W x 1.8 cm H, rated input voltage: DC 3.7V battery.

#### Frequency Range:

Cellular Band: 824-849 MHz (TX), 869-894 MHz (RX)  
PCS Band: 1850-1910 MHz (TX), 1930-1990 MHz (RX)  
Bluetooth: 2400-2483.5 MHz (TX/RX)  
Wi-Fi: 2412-2462MHz (TX/RX)

Modulation Mode: GMSK (GSM/PCS), GFSK (Bluetooth), Wi-Fi (DSSS/OFDM)

#### Transmitter Output Power:

Cellular Band: 33±2 dBm  
PCS Band: 30±2 dBm  
Bluetooth: -10~4 dBm  
Wi-Fi: 10±2 dBm

*All measurement and test data in this report was gathered from production sample serial number: 0906099(Assigned by BACL, Shenzhen). The EUT was received on 2009-06-30.*

*\*Note: The series products, model F818, F828, D9, we select F818 to test, the difference of these models is in model name, there is no electrical change has been made to the equipment, which was explained in the attached Declaration Letter.*

### Objective

This Type approval report is prepared on behalf of *FIYING TECHNOLOGY DEVELOPMENT CO., LTD* in accordance with Part 2, Subpart J, Part 15, Subparts A, B and C of the Federal Communication Commissions rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

This measurement and test report only pertains to the Part 15.247 portion of the EUT; for measurement and test results to the GSM 1900 function please refer to report RSZA09063001-22&24 issued by Shenzhen BACL.

This is the C2PC application of the device. The difference between the original device and the current one is as follows:

Modification	Original	New
Enclosure	Plastic Enclosure	Metal Enclosure
Model Number	F8(Tested), F009, F999, D9a	F818(Tested), F828, D9

For the changes made to the device, spurious emission testing was performed.

**Related Submittal(s)/Grant(s)**

This is a C2PC application. The original application was granted on 2009-07-16.

**Test Methodology**

All measurements contained in this report were conducted with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

All emissions measurement was performed and Bay Area Compliance Laboratories Corp. (Shenzhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

**Test Facility**

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located in the 6/F, the 3<sup>rd</sup> Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China.

Test site at Bay Area Compliance Laboratories Corp. (Shenzhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on November 21, 2007. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2003.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Bay Area Compliance Laboratories Corp. (Shenzhen) is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (Lab Code 200707-0).



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The current scope of accreditations can be found at <http://ts.nist.gov/Standards/scopes/2007070.htm>

## SYSTEM TEST CONFIGURATION

### Description of Test Configuration

The system was configured for testing in a typical fashion (as normally used by a typical user).

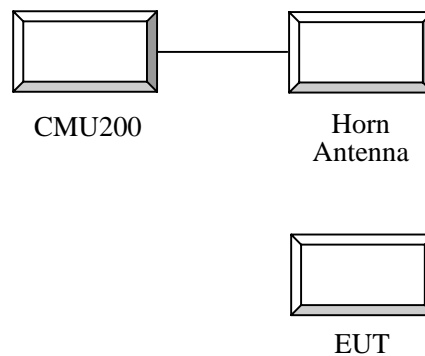
### Equipment Modifications

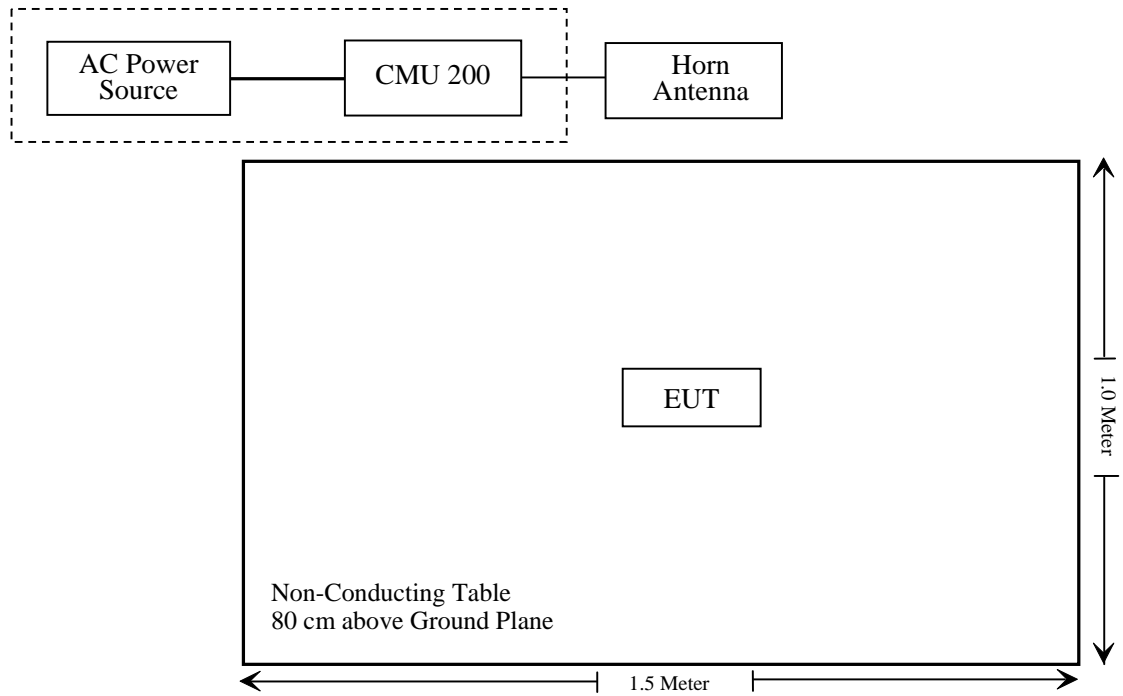
No modification was made to the unit tested.

### Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number	FCC ID
R & S	Universal Radio Commutation Tester	CMU200	109038	DoC

### Configuration of Test Setup



**Block Diagram of Test Setup**

**SUMMARY OF TEST RESULTS**

FCC Rules	Description of Test	Result
§ 15.247 (i), § 2.1093	RF Exposure	Compliance *
§ 15.203	Antenna Requirement	Compliance *
§ 15.207 (a)	Conducted Emissions	Compliance *
§ 15.205, § 15.209, § 15.109, § 15.247(d)	Radiated Emissions	Compliance
§ 15.247 (a)(1)	20 dB Bandwidth	Compliance *
§ 15.247(a)(1)	Channel Separation Test	Compliance *
§ 15.247(a)(1)(iii)	Time of Occupancy (Dwell Time)	Compliance *
§ 15.247(a)(1)(iii)	Quantity of hopping channel Test	Compliance *
§ 15.247(b)(1)	Peak Output Power Measurement	Compliance *
§ 15.247(d)	Band Edges	Compliance *

Note: \* Please refer to original report, report number: RSZ09062102-BT

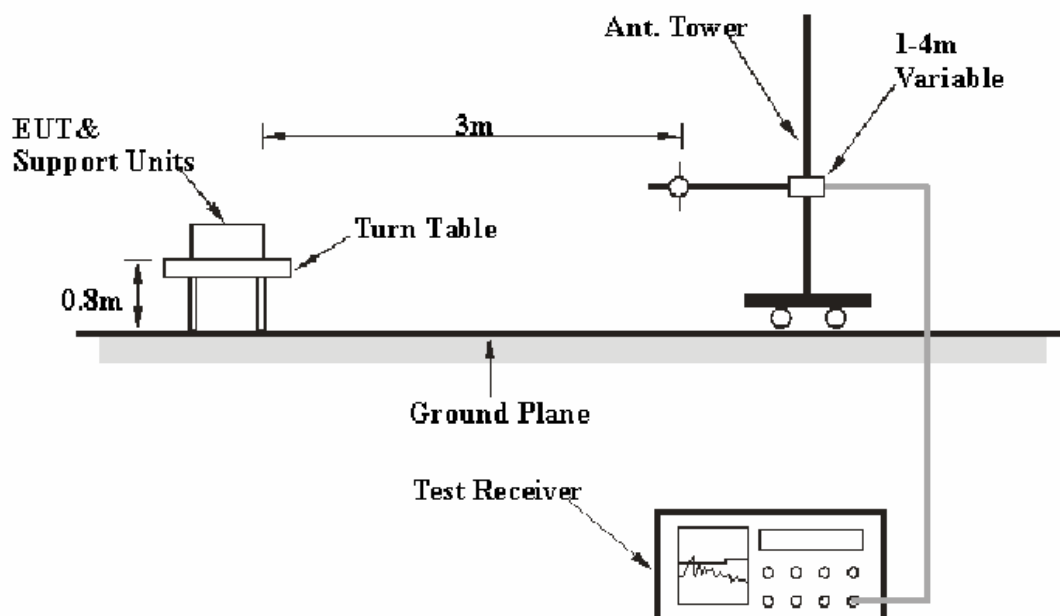
**CFR47 §15.205, §15.209 & §15.247 – RADIATED EMISSIONS****Applicable Standard**

CFR47 §15.205; §15.209; §15.247 (d)

**Measurement Uncertainty**

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at Bay Area Compliance Laboratories Corp. (Shenzhen) is  $\pm 4.0$  dB.

**EUT Setup**

The radiated emission tests were performed in the 3 meters chamber B test site, using the setup accordance with the ANSI C63.4-2003. The specification used was the FCC 15.209 and FCC 15.247 limits.



## EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 25 GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

<i>Frequency Range</i>	<i>RBW</i>	<i>Video B/W</i>
30MHz – 1000 MHz	100 kHz	300 kHz
1000 MHz – 25 GHz	1 MHz	3 MHz

## Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Amplifier	HP8447D	2944A09795	2008-08-02	2009-08-02
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2008-11-07	2009-11-06
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2009-03-11	2010-03-11
HP	Amplifier	8449B	3008A00277	2008-09-12	2009-09-11
Sunol Sciences	Horn Antenna	DRH-118	A052604	2008-09-25	2009-09-25
A.H. System	Horn Antenna	SAS-200/571	135	2009-05-17	2010-05-17
Rohde & Schwarz	Spectrum Analyzer	FSEM30	849720/019	2008-08-28	2009-08-27

\* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

## Test Procedure

For the radiated emissions test, the adapter was connected to the AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz-1GHz and peak and Average detection modes for frequencies above 1 GHz.

### Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

$$\text{Corrected Amplitude} = \text{Meter Reading} + \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the maximum limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Limit} - \text{Corrected Amplitude}$$

### Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Title 47, Part 15, Subpart C, section 15.205, 15.209 and 15.247, with the worst margin reading of:

#### Transmitting mode (Below 1GHz):

**10.7 dB at 35.452325 MHz in the Vertical polarization**

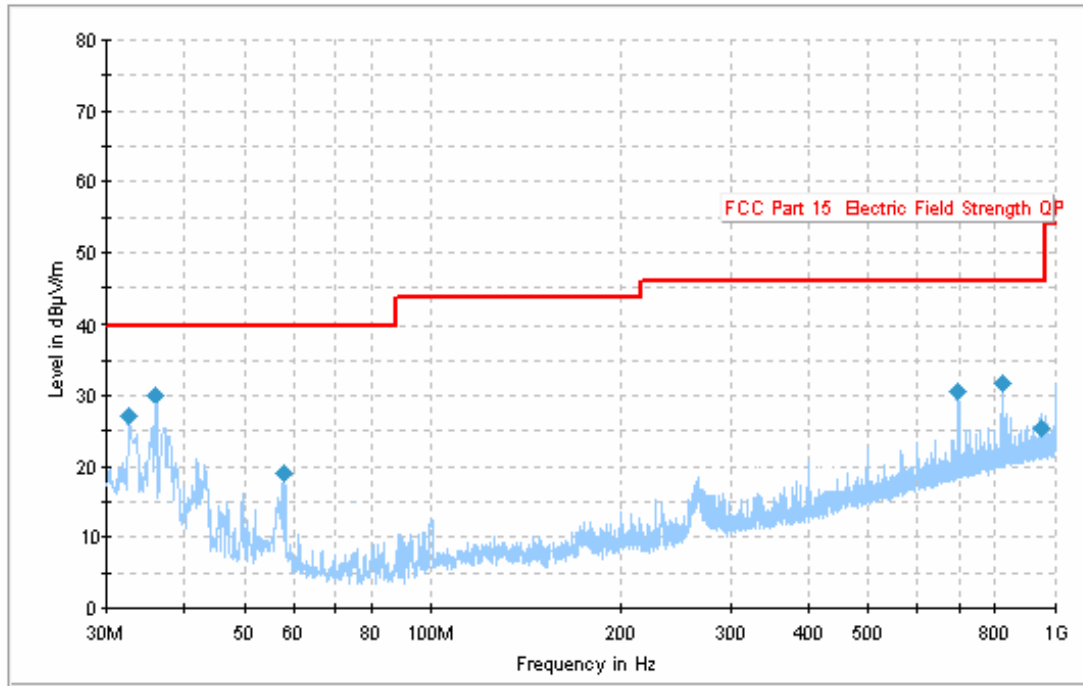
### Test Data

#### Environmental Conditions

<b>Temperature:</b>	25 °C
<b>Relative Humidity:</b>	56 %
<b>ATM Pressure:</b>	100.9 kPa

*\* The testing was performed by Phoenix Liu on 2009-07-13.*

Test Mode: Transmitting



Frequency (MHz)	Corrected Amplitude (dBμV/m)	Antenna Height (cm)	Antenna Polarity (H/V)	Turntable Position (deg)	Correction Factor (dB)	Limit (dBμV/m)	Margin (dB)
35.452325	29.3	119.0	V	162.0	-12.0	40.0	10.7
31.120125	26.4	170.0	V	157.0	-10.2	40.0	13.6
818.984775	31.9	109.0	V	158.0	-4.6	46.0	14.1
699.958925	30.4	101.0	V	166.0	-6.1	46.0	15.6
950.631600	25.5	113.0	H	206.0	-3.2	46.0	20.5
57.763125	19.2	109.0	V	128.0	-21.5	40.0	20.8

## **DECLARATION LETTER**

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Rm.2312,23/F.Metropolis tower,10Metropolis Drive,Hung Hom,Kowloon.HK

### **Product Similarity Declaration**

To Whom It May Concern,

We, FIYING TECHNOLOGY DEVELOPMENT CO.,LTD, hereby declare that our GSM&GPRS Dual Standby Mobile Phone, Model Number: F828,D9 are electrically identical with the Model Number: F818 that was certified by BACL. F828,D9 and F818 are named differently due to marketing purposes.

Please contact me if you have any question.

Signature:

Print Name: Yuanjian Hu

Title: Engineering Manager

Date:2009-07-13

**\*\*\*\*\* END OF REPORT \*\*\*\*\***