



NVLAP LAB CODE 200707-0



FCC PART 15.247

MEASUREMENT AND TEST REPORT

For

Beyond E-Tech Inc

3005 West Loop South, STE.100,
Houston, TX 77027, USA

FCC ID: WTID916

Report Type: Class II Permissive Change	Product Type: GSM&GPRS Dual Standby Mobile Phone
Test Engineer:	Phoenix Liu <i>Phoenix Liu</i>
Report Number:	RSZA08110604-247
Report Date:	2008-11-12
Reviewed By:	Green Xu <i>Green Xu</i> EMC Manager
Prepared By:	Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China Tel: +86-755-33320018 Fax: +86-755-33320008

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 “*”

TABLE OF CONTENTS

GENERAL INFORMATION.....	3
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	3
OBJECTIVE	3
RELATED SUBMITTAL(S)/GRANT(S).....	3
TEST METHODOLOGY	3
TEST FACILITY	4
SYSTEM TEST CONFIGURATION.....	5
DESCRIPTION OF TEST CONFIGURATION	5
EQUIPMENT MODIFICATIONS	5
CONFIGURATION OF TEST SETUP	5
BLOCK DIAGRAM OF TEST SETUP	5
SUMMARY OF TEST RESULTS	6
CFR47 §15.247 (i) and §2.1093 - RF EXPOSURE	7
STANDARD APPLICABLE	7
RESULT:	7
CFR47 §15.203 - ANTENNA REQUIREMENT.....	8
STANDARD APPLICABLE	8
ANTENNA CONNECTOR CONSTRUCTION	8
CFR47 §15.205, §15.209, §15.109, §15.247 - RADIATED EMISSIONS.....	9
APPLICABLE STANDARD	9
MEASUREMENT UNCERTAINTY	9
EUT SETUP.....	9
EMI TEST RECEIVER & SPECTRUM ANALYZER SETUP	10
TEST EQUIPMENT LIST AND DETAILS.....	10
TEST PROCEDURE	10
CORRECTED AMPLITUDE & MARGIN CALCULATION	10
TEST RESULTS SUMMARY	11
TEST DATA	11

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Beyond E-Tech Inc's* product, model number: D888 or the "EUT" as referred to in this report is a *GSM&GPRS Dual Standby Mobile Phone*, which measures approximately: 11.57 cm L x 5.18 cm W x 1.77 cm H, input voltage: 3.7V battery.

** All measurement and test data in this report was gathered from production sample serial number: 0811007 (Assigned by BACL, Shenzhen). The EUT was received on 2008-11-06.*

Objective

This Type approval report is prepared on behalf of *Beyond E-Tech Inc* 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 is the Class II permissive change application of the device. The difference between the original device and the current one is as follows:

1) Product model name changed.

	Original Model	New Model
Model	D916	D888

2) New product has been removed the IC chip of screen touched. The number of IC chip is CP2056 which it was a driver to start up touched screen, and there isn't other electrical change has made to the equipment that alters the compliance characteristics. External photos are submitted as attachments

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

Related Submittal(s)/Grant(s)

This is a Class II permissive change application. The original application was granted on 2008-11-06.

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 3rd 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 04, 2004. 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).



NVLAP LAB CODE 200707-0

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

SYSTEM TEST CONFIGURATION

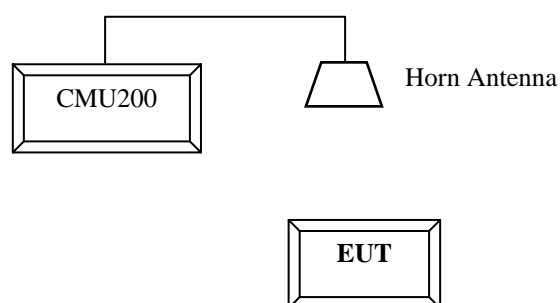
Description of Test Configuration

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

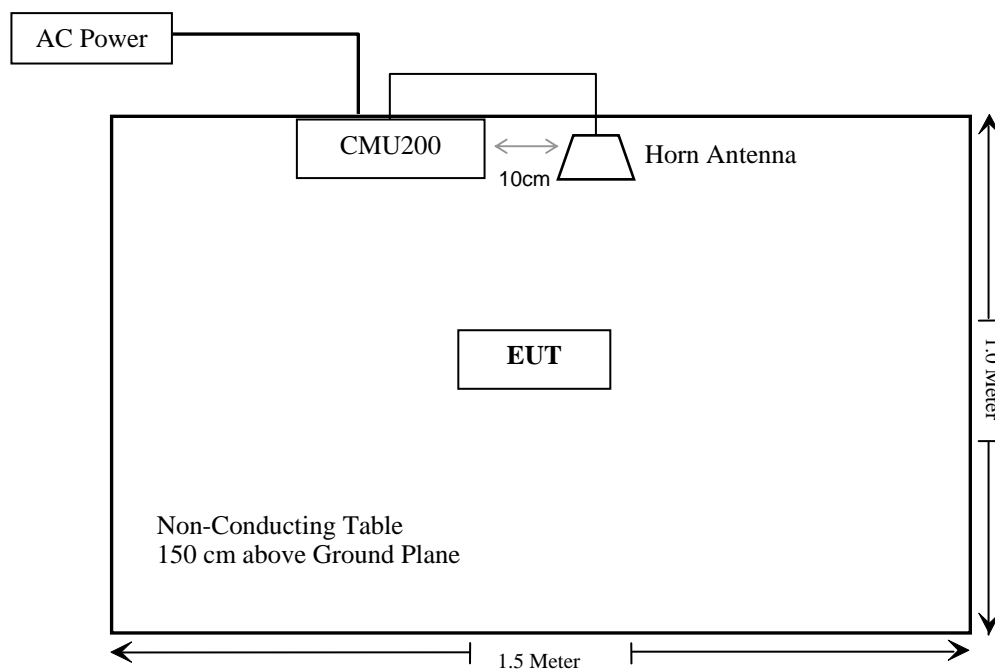
Equipment Modifications

No modification was made to the unit tested.

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	Compliant
§15.203	Antenna Requirement	Compliant
§15.207 (a)	Conducted Emissions	Compliant*
§15.205, §15.209, §15.109, §15.247(d)	Radiated Emissions	Compliant
§15.247 (a)(1)	20 dB Bandwidth	Compliant*
§15.247(a)(1)	Channel Separation Test	Compliant*
§15.247(a)(1)(iii)	Time of occupancy (Dwell Time)	Compliant*
§15.247(a)(1)(iii)	Quantity of hopping channel Test	Compliant*
§15.247(b)(1)	Peak Output Power Measurement	Compliant*
§15.247(d)	Band edges	Compliant*

Note1: * Original submission FCC ID: WTID916 filed 2008-11-06, Report No.: RSZ08100705.

Note2: The Radiated Emissions for above 1GHz was the same as the original certified product.

CFR47 §15.247 (i) and §2.1093 - RF EXPOSURE

Standard Applicable

According to §15.247 (i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for General Population/Uncontrolled Exposure

According to FCC Exclusion list, In the following table, f_{GHz} is mid-band frequency in GHz, and d is the distance to a person's body, excluding hands, wrists, feet, and ankles.

Exposure category	<u>low threshold</u>	<u>high threshold</u>
general population	$(60/f_{\text{GHz}}) \text{ mW}, d < 2.5 \text{ cm}$ $(120/f_{\text{GHz}}) \text{ mW}, d \geq 2.5 \text{ cm}$	$(900/f_{\text{GHz}}) \text{ mW}, d < 20 \text{ cm}$
occupational	$(375/f_{\text{GHz}}) \text{ mW}, d < 2.5 \text{ cm}$ $(900/f_{\text{GHz}}) \text{ mW}, d \geq 2.5 \text{ cm}$	$(2250/f_{\text{GHz}}) \text{ mW}, d < 20 \text{ cm}$

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval.

Result:

Two antennas are available for the EUT, one is GSM/PCS antenna and the other is Bluetooth antenna, the distance between them is less than 2.5 cm, according to FCC KDB 648474 D01 SAR Handsets Multi Xmitter and ant. V01r05 released on September 2008, the Max peak output power is $0.25 \text{ mW} < P_{\text{Ref}}$ (12 mw) stand-alone SAR is not required for Bluetooth antenna.

The SAR measurement is exempt.

CFR47 §15.203 - ANTENNA REQUIREMENT

Standard Applicable

According to CFR47 § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. 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 provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Antenna Connector Construction

The EUT has an integral antenna mounted on PCB, end-user can not access, please refer to the internal photos.

Result: Compliant.

CFR47 §15.205, §15.209, §15.109, §15.247 - RADIATED EMISSIONS

Applicable Standard

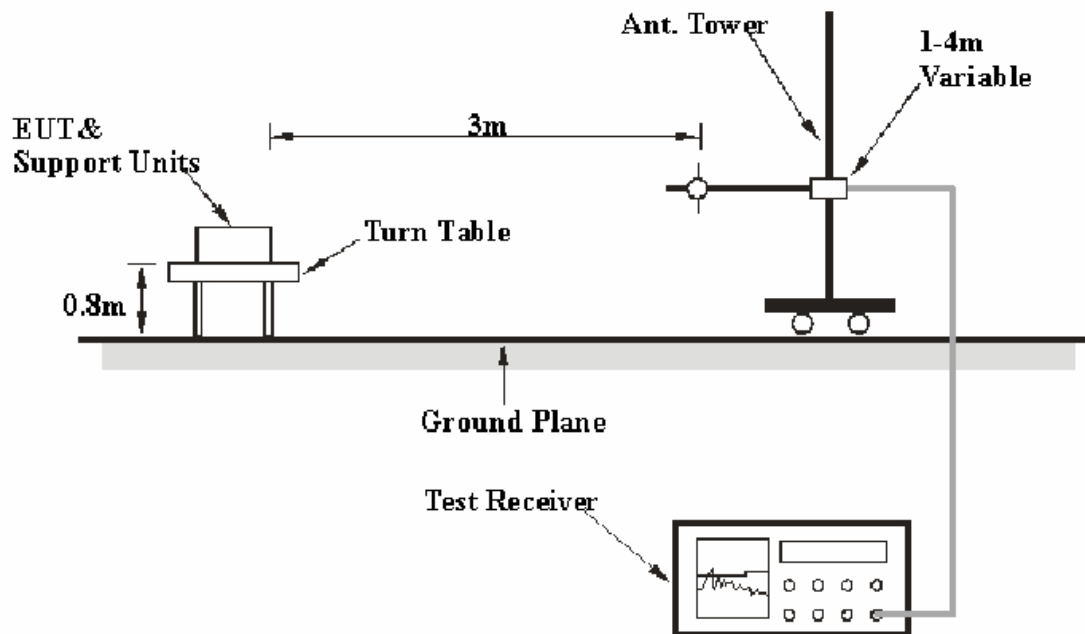
CFR47 §15.205; §15.209; §15.109; §15.247 (d).

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 ± 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	2007-11-15	2008-11-15
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2008-10-16	2009-10-16
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2008-03-11	2009-03-11
HP	Amplifier	8449B	3008A00277	2008-09-29	2009-09-29
Sunol Sciences	Horn Antenna	DRH-118	A052604	2008-09-25	2009-09-25
Rohde & Schwarz	Spectrum Analyzer	FSEM30	849720/019	2008-05-09	2009-05-09

* **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 1GHz.

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, 15.109, and 15.247, with the worst margin reading of:

Transmitting mode (Below 1 GHz):

9.7 dB at 935.184175 MHz in the Horizontal polarization

Transmitting mode (Above 1 GHz):

The Radiated Emissions for above 1GHz was the same as the original certified product.

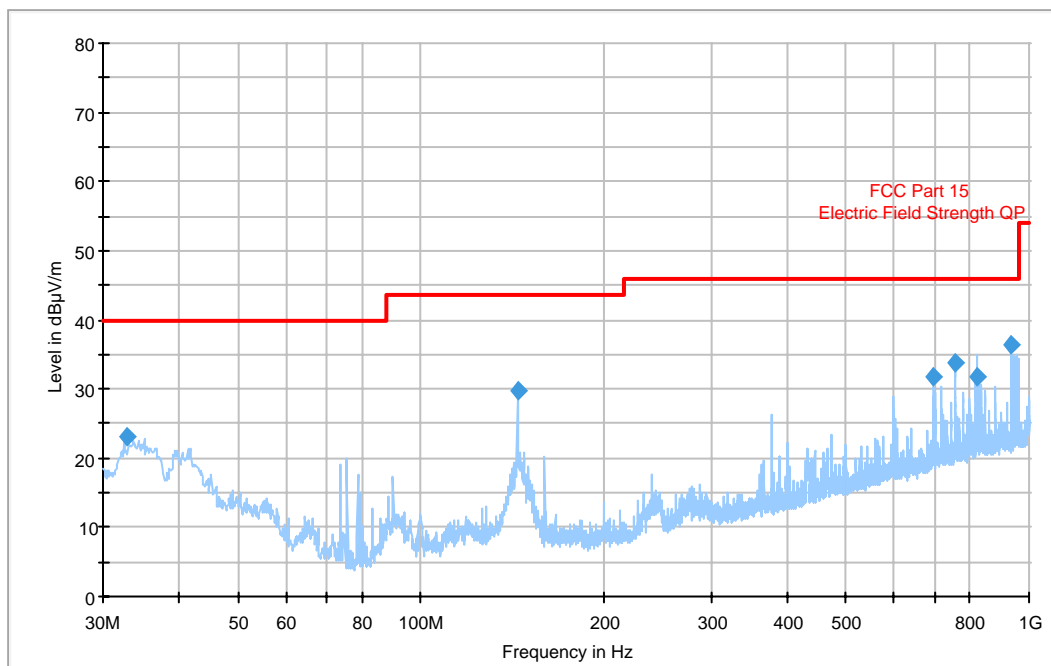
Test Data

Environmental Conditions

Temperature:	27 °C
Relative Humidity:	56 %
ATM Pressure:	100.9 kPa

** The testing was performed by Phoenix Liu on 2008-11-10*

Test Mode: Transmitting (below 1GHz)



Frequency (MHz)	Corrected Amp. (dBμV/m)	Antenna Height (cm)	Ant. Polarity (H/V)	Turntable Position (deg)	Correction Factor (dB)	Limit (dBμV/m)	Margin (dB)
935.184175	36.3	104.0	H	180.0	-3.4	46.0	9.7
756.079300	33.9	135.0	V	154.0	-5.9	46.0	12.1
143.990375	29.8	201.0	H	328.0	-18.6	43.5	13.7
698.154975	31.7	146.0	V	154.0	-6.9	46.0	14.3
819.069950	31.7	118.0	V	141.0	-4.9	46.0	14.3
32.787750	23.0	340.0	V	0.0	-10.5	40.0	17.0

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