



# FCC PART 15 CLASS B

## MEASUREMENT AND TEST REPORT

For

### Teleepoch Limited

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Guangdong Province, China

**FCC ID: U46-C5620**

<b>Report Type:</b> Original Report	<b>Product Type:</b> Mobile Phone
<b>Test Engineer:</b> <u>Brown Lu</u>	
<b>Report Number:</b> <u>RSZ120210003-00</u>	
<b>Report Date:</b> <u>2012-04-06</u>	
<b>Reviewed By:</b> <u>EMC Engineer</u>	
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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. This report **must not** be used by the customer to claim product certification, approval, or endorsement by NVLAP\*, or any agency of the Federal Government.

\* This report contains data that are not covered by the NVLAP accreditation and are marked with an asterisk “★” (Rev.2)

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## GENERAL INFORMATION

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

The *Teleepoch Limited*'s product, model number: *C5620 (FCC ID: U46-C5620)* (or the "EUT") in this report was a *Mobile Phone*, which was measured approximately: 99 mm (L) x 4.86 mm (W) x 16.8 mm (H) , rated input voltage: DC 3.7V battery or DC 5.0V from adapter for charging. The highest frequency generated in the device is 196 MHz.

Adapter Information: Switching Adaptor

Modelo: A26-50500

Entrada: AC 100-240V~50/60Hz. 0.2A

Salida: DC 5V 500mA

*Note: The series product, model C5620, FLIP and MXC-628 are electrically identical, we select C5620 for fully testing, which was explained in the attached declaration letter.*

*\* All measurement and test data in this report was gathered from production sample serial number: 1202029 (Assigned by BACL, Shenzhen). The EUT was received on 2012-02-10.*

### Objective

This report is prepared on behalf of *Teleepoch Limited* in accordance with Part 2- Subpart J, Part 15- Subparts A and B of the Federal Communication Commissions rules.

The objective of the manufacturer is to determine the compliance of EUT with FCC Part 15 Class B.

### Related Submittal(s)/Grant(s)

FCC Part 15.247 DSS and 22H&24E PCE submissions with FCC ID: U46-C5620

### Test Facility

The Test site used by Bay Area Compliance Laboratories Corp.(Shenzhen) to collect test data is located on 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 December 06, 2010. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2009.

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 an ISO/IEC 17025 accredited laboratory, and is accredited by National Voluntary Laboratory Accredited Program (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 mode which is provided by manufacturer.

### EUT Exercise Software

Winthraw.exercise software was provided by BACL.

### Equipment Modifications

No modification was made to the EUT tested.

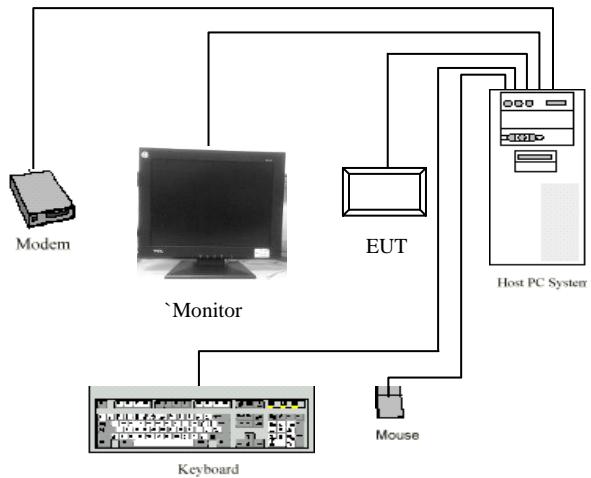
### Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
DELL	Host PC	DCSCSF	127BP2X
DELL	LCD monitor	6737-66N	23-P3242
DELL	Mouse	MOC5UO	G1B0096D
DELL	Keyboard	L100	CNORH656658907BL04TY
AST	Modem	AEM-2100	0293

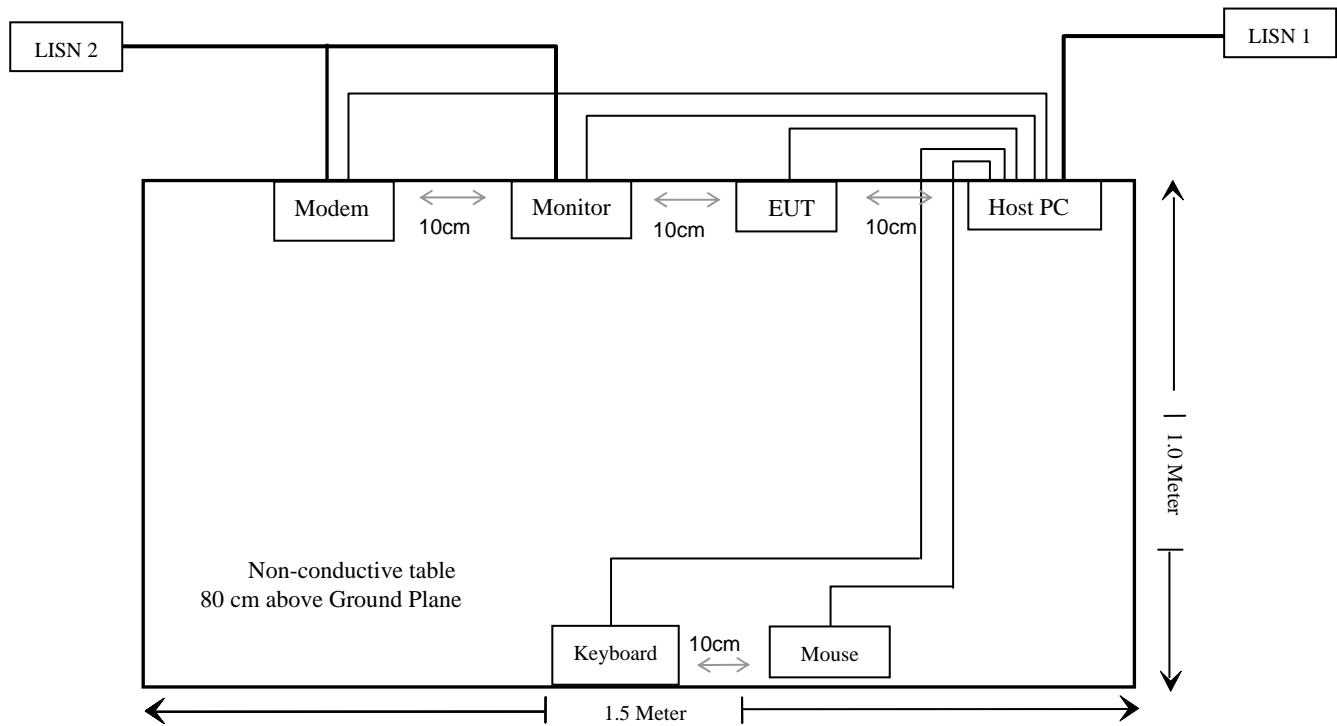
### External I/O Cable

Cable Description	Length (m)	From/Port	To
Shielded Detachable USB Keyboard Cable	1.5	Keyboard Port/Host	Keyboard
Shielded Detachable USB Mouse Cable	1.5	Mouse Port/Host	Mouse
Shielded Detachable Serial Cable	1.5	Serial Port/Host	Modem
Shielded Detachable VGA Cable	1.5	VGA Port/Host	Monitor
Shielded Detachable USB Cable	1.0	EUT	Host PC

## Configuration of Test Setup



## Block Diagram of Test Setup



**SUMMARY OF TEST RESULTS**

FCC Rules	Description of Test	Results
§15.107	AC Line Conducted Emissions	Compliance
§15.109	Radiated Emissions	Compliance

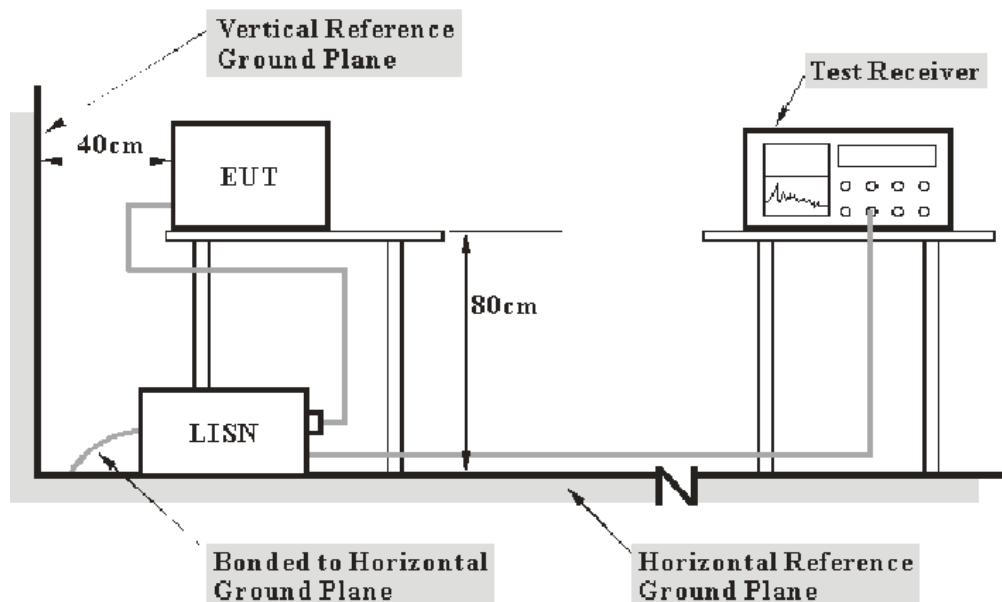
## FCC §15.107 – AC LINE CONDUCTED EMISSIONS

### Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, and LISN.

Based on CISPR 16-4-2, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement at Bay Area Compliance Laboratories Corp. (Shenzhen) is 2.4 dB.(k=2, 95% level of confidence)

### EUT Setup



**Note:**

1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.4-2009 measurement procedure. The specification used was with the FCC Part 15.107 Class B limits.

The spacing between the peripherals was 10 cm.

The host PC was connected to a 120 VAC/60 Hz power source.

## EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

<b><u>Frequency Range</u></b>	<b><u>IF B/W</u></b>
150 kHz – 30 MHz	9 kHz

## Test Equipment List and Details

<b>Manufacturer</b>	<b>Description</b>	<b>Model</b>	<b>Serial Number</b>	<b>Calibration Date</b>	<b>Calibration Due Date</b>
Rohde & Schwarz	EMI Test Receiver	ESCS30	830245/006	2011-03-03	2012-03-02
Rohde & Schwarz	L.I.S.N.	ESH2-Z5	892107/021	2011-03-09	2012-03-08
Com-Power	L.I.S.N.	LI-200	12005	N/A	N/A
Com-Power	L.I.S.N.	LI-200	12208	N/A	N/A

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

## Test Procedure

During the conducted emission test, the host PC was connected to the outlet of the first LISN, and the other support equipment were connected to the second LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

## Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.107, with the worst margin reading of:

**10.40 dB at 8.855 MHz in the Neutral** conducted

## Test Data

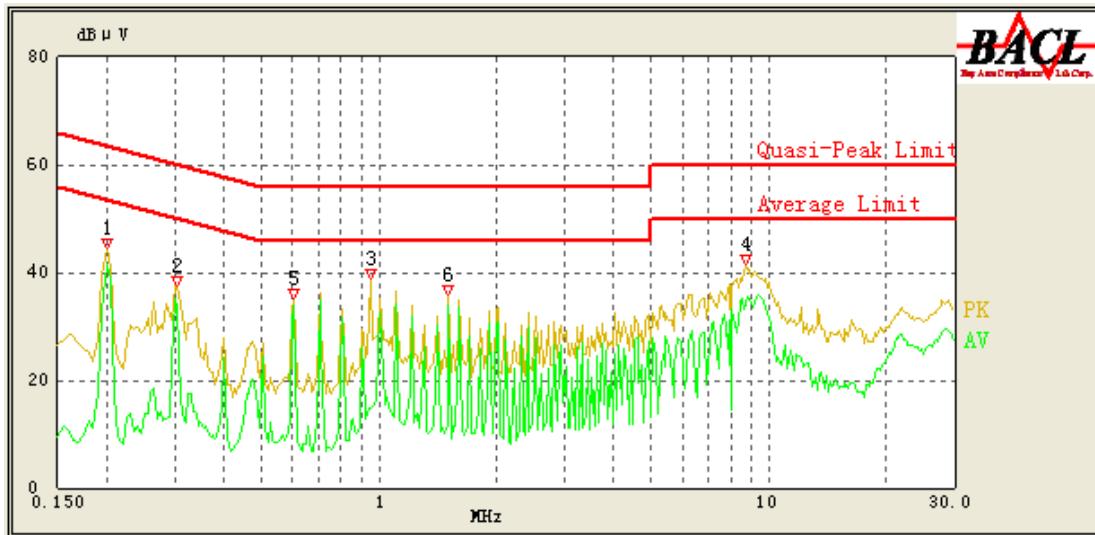
### Environmental Conditions

<b>Temperature:</b>	25 °C
<b>Relative Humidity:</b>	48 %
<b>ATM Pressure:</b>	100.0 kPa

*The testing was performed by Brown Lu on 2012-02-17.*

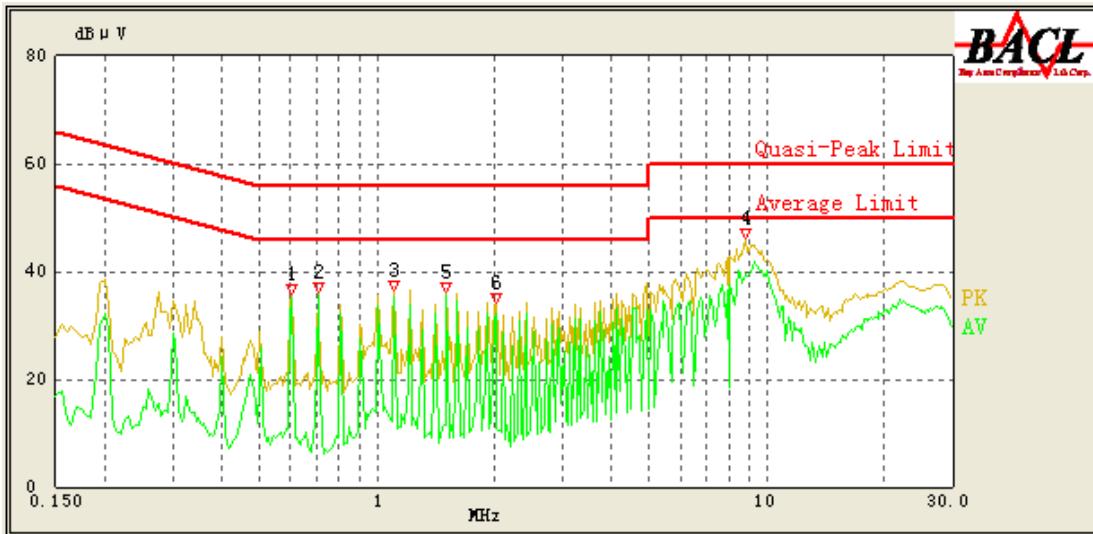
*Test Mode: Downloading*

### AC 120V/60 Hz, Line



Frequency (MHz)	Corrected Amplitude (dB $\mu$ V)	Correction Factor (dB)	Limit (dB $\mu$ V)	Margin (dB)	Detector (PK/ QP/Ave.)
0.605	33.87	9.96	46.00	12.13	Ave.
1.510	33.87	9.97	46.00	12.13	Ave.
0.200	41.59	9.96	54.57	12.98	Ave.
8.655	33.27	9.98	50.00	16.73	Ave.
0.305	33.90	9.96	51.57	17.67	Ave.
0.605	34.77	9.96	56.00	21.23	QP
1.510	34.35	9.97	56.00	21.65	QP
0.200	42.17	9.96	64.57	22.40	QP
8.750	36.84	9.98	60.00	23.16	QP
0.305	34.89	9.96	61.57	26.68	QP
0.950	14.86	9.97	46.00	31.14	Ave.
0.955	19.95	9.97	56.00	36.05	QP

## AC 120V/60 Hz, Neutral



Frequency (MHz)	Corrected Amplitude (dB $\mu$ V)	Correction Factor (dB)	Limit (dB $\mu$ V)	Margin (dB)	Detector (PK/ QP/Ave.)
8.855	39.60	9.99	50.00	10.40	Ave.
0.705	35.46	9.97	46.00	10.54	Ave.
1.510	35.39	9.97	46.00	10.61	Ave.
1.105	35.06	9.97	46.00	10.94	Ave.
0.605	34.69	9.96	46.00	11.31	Ave.
2.015	32.29	9.97	46.00	13.71	Ave.
1.105	36.87	9.97	56.00	19.13	QP
8.850	40.77	9.99	60.00	19.23	QP
1.510	36.63	9.97	56.00	19.37	QP
0.705	36.23	9.97	56.00	19.77	QP
0.605	35.63	9.96	56.00	20.37	QP
2.015	33.09	9.97	56.00	22.91	QP

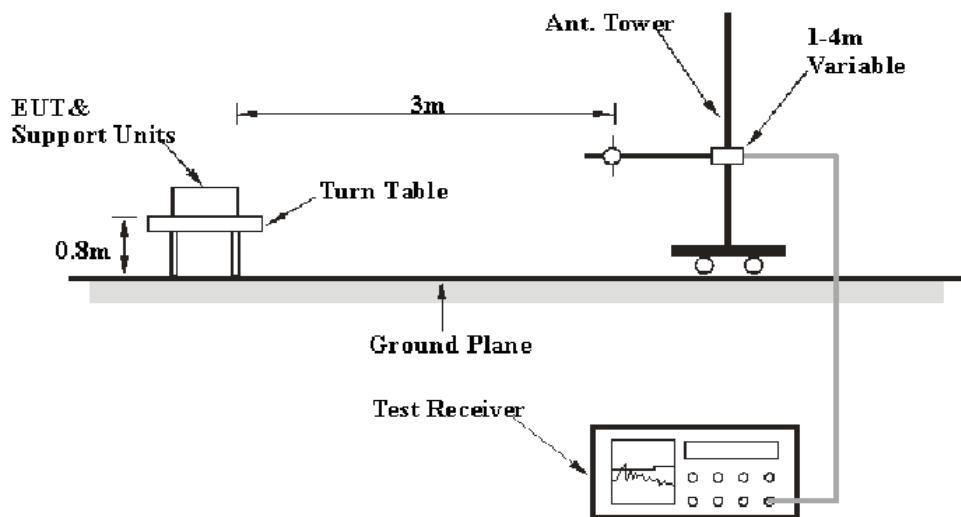
## FCC §15.109 - RADIATED EMISSIONS

### 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 CISPR 16-4-2, 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. (k=2, 95% level of confidence)

### EUT Setup



The radiated emission tests were performed in the 3 meters test site, using the setup accordance with the ANSI C63.4-2009. The specification used was the FCC Part 15.109 Class B limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

The host PC was connected to a 120 VAC/60 Hz power source.

## EMI Test Receiver Setup

The system was investigated from 30 MHz to 2000 MHz.

During the radiated emission test, the EMI test receiver was set with the following configurations:

<b>Frequency Range</b>	<b>RBW</b>	<b>Video B/W</b>	<b>Detector</b>
30 MHz – 1000 MHz	100 kHz	300 kHz	QP
1000 MHz – 2 GHz	1 MHz	3 MHz	PK
1000 MHz – 2 GHz	1 MHz	10 Hz	PK

## Test Procedure

During the radiated emissions test, the host PC and all the other relevant equipments were connected to 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-1 GHz, peak and Average detection modes for frequencies above 1 GHz.

## Test Equipment List and Details

<b>Manufacturer</b>	<b>Description</b>	<b>Model</b>	<b>Serial Number</b>	<b>Calibration Date</b>	<b>Calibration Due Date</b>
HP	Amplifier	HP8447D	2944A09795	2011-08-02	2012-08-01
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2011-11-11	2012-11-10
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2011-07-05	2012-07-04
Mini-Circuits	Amplifier	ZVA-213+	T-E27H	2011-03-08	2012-03-07
Sunol Sciences	Horn Antenna	DRH-118	A052604	2011-05-05	2012-05-04
Rohde & Schwarz	Signal Analyzer	FSIQ 26	609358	2011-07-08	2012-07-07

\* **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.

## Corrected Amplitude & Margin Calculation

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

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

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 limit. The equation for margin calculation is as follows:

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

## Test Results Summary

According to the data in the following table, the EUT complied with the FCC §15.109 Class B, with the worst margin reading of:

**11.1 dB at 257.485250 MHz** in the **Horizontal** polarization

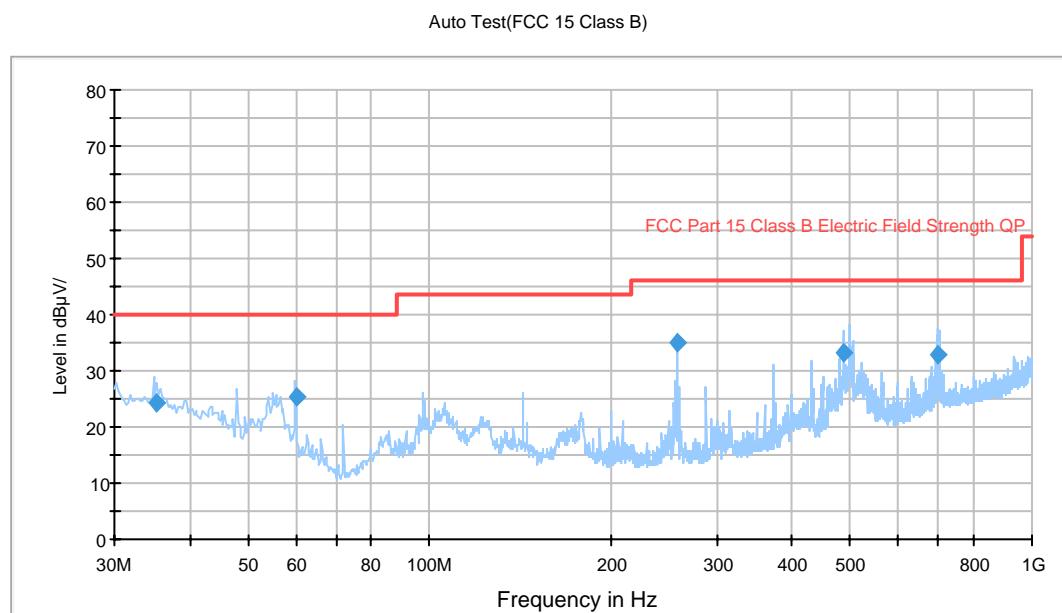
### Test Data

#### Environmental Conditions

<b>Temperature:</b>	25 °C
<b>Relative Humidity:</b>	48 %
<b>ATM Pressure:</b>	100.0 kPa

The testing was performed by Brown Lu on 2012-02-17.

Test Mode: Downloading



Frequency (MHz)	Corrected Amplitude (dBμV/m)	Test Antenna		Turntable Position (degree)	Correction Factor (dB)	Limit (dBμV/m)	Margin (dB)
		Height (cm)	Polarity (H/V)				
257.485250	34.9	374.0	H	200.0	-13.3	46.0	11.1
487.048250	33.2	104.0	V	292.0	-8.6	46.0	12.8
699.591500	33.0	124.0	V	264.0	-3.1	46.0	13.0
60.003750	25.4	400.0	H	256.0	-18.7	40.0	14.6
35.106750	24.2	104.0	V	74.0	-8.9	40.0	15.8

Note: 1-2 GHz: No other spurious emission was detected above the system noise floor.

## **PRODUCT SIMILARITY DECLARATION LETTER**

### **Product Similarity Declaration**

To Whom It May Concern,

We, Teleepoch Limited, hereby declare that our Mobile phone, Model Number: FLIP/MXC-628 are electrically identical with the Model Number: C5620 that was certified by BACL. They are named differently due to marketing purposes.

Please contact me if you have any question.

Signature:

Maggie Zhang

Project Manager



2012.02.29

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