Lab Code: 200707-0

FCC PART 18
TEST REPORT

For

Zhongshan Yalesi Electric Co., Ltd

Shenghuibei Industry, Nantou Town, Zhongshan City, Guangdong Province, Guangdong, China

FCC ID: ZMAC16K9

Report Type:	**Product Name:**
Original Report	Induction hotplate

Test Engineer:	Lebron Wang
Report Number:	RSZ120314550-00
Report Date:	2012-03-27
Reviewed By:	Lisa Zhu EMC Engineer
Test Laboratory:	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 www.baclcorp.com.cn

TABLE OF CONTENTS

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Zhongshan Yalesi Electric Co.,Ltd*'s model: *C16K9 (FCC ID: ZMAC16K9) (*the "EUT") in this report was an *Induction hotplate* , which was measured approximately: 345 mm (L) x 300 mm (W) x 60 mm (H), the rated input voltage: AC 120V/60Hz. The operating frequency ranges from 20 kHz to 40 kHz.

** All measurement and test data in this report was gathered from production sample serial number: 1203010 (Assigned by BACL, Shenzhen). The EUT was received on 2012-03-14.*

Objective

This test report is prepared on behalf of *Zhongshan Yalesi Electric Co.,Ltd* in accordance with Part 2-Subpart J and Part 18-Subparts A, B and C of the Federal Communication Commissions rules and regulations.

The objective of the manufacturer is to determine the compliance of EUT with FCC Part 18.

Related Submittal(s)/Grant(s)

No related submittal(s).

Test Methodology

All measurements contained in this report were conducted with MP-5, FCC Methods of Measurements of Radio Noise Emissions from ISM Equipment, February 1986. All measurement was performed at Bay Area Compliance Laboratories Corp. 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 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

Justification

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

EUT Exercise Software

No exercise software was used.

Special Accessories

No special accessory was used.

Equipment Modifications

No modification was made to the EUT tested.

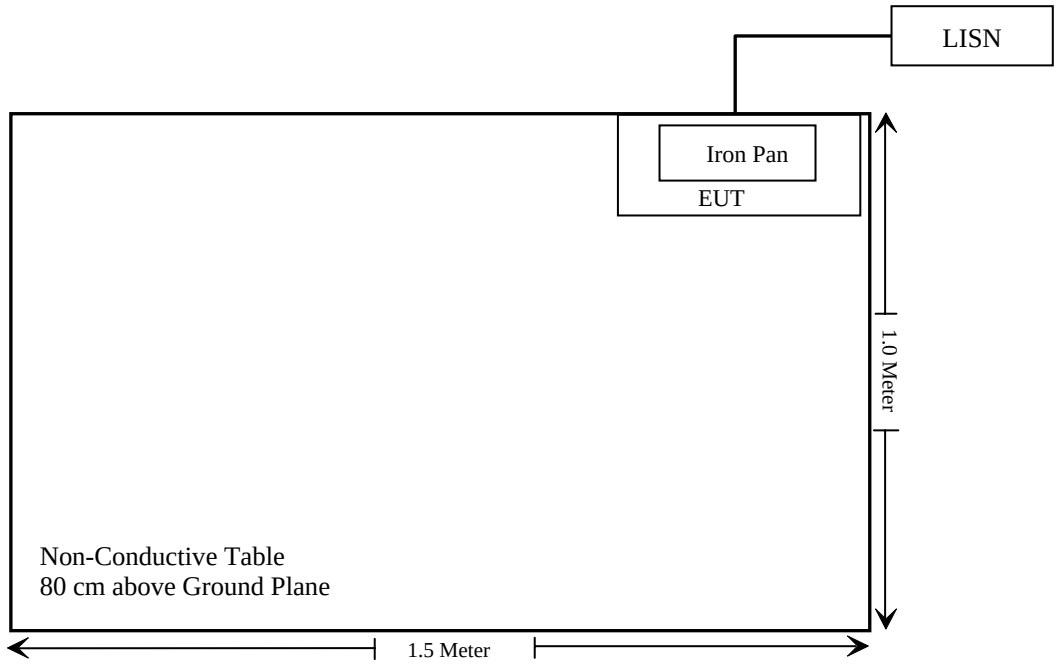
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
Ileosip	Iron Pan	N/A	N/A

External Cable

Cable Description	Length (m)	From Port	To
Unshielded Detachable AC Power Cable	1.0	EUT	LISN

Block Diagram of Test Setup



SUMMARY OF TEST RESULT

FCC Rules	Description of Test	Results
§18.307	AC Line Conducted Emissions	Compliance
§18.305	Field Strength	Compliance

FCC §18.307 - AC LINE CONDUCTED EMISSIONS

Applicable Standard

Conduction limits. For the following equipment, when 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 shall not exceed the limits in the following tables. Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal using a 50 µH/50 ohms line impedance stabilization network (LISN).

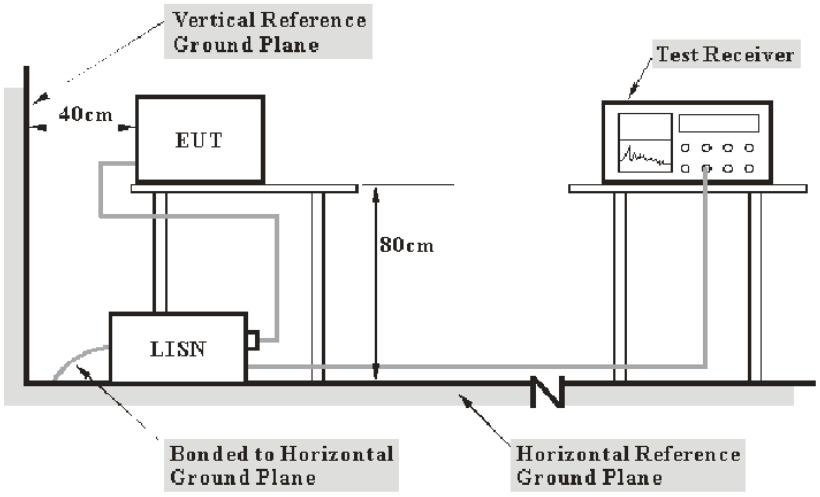
Frequency of emission (MHz)	Conducted limit (dBµV)	
	Quasi-peak	Average
0.009–0.05	110	-
0.05–0.15	90–80*	-
0.15–0.5	66 to 56*	56 to 46*
0.5–5	56	46
5–30	60	50

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. 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 MP-5: 1986 measurement procedure. Specification used was with the FCC Part 18 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 EUT 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 9 kHz to 30 MHz.

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

Frequency Range	***IFBW***
9kHz~150kHz	200Hz
150 kHz – 30 MHz	9 kHz

Test Procedure

During the conducted emission test, the EUT was connected to the LISN.

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

All data was recorded in the Quasi-Peak detection and Average detection mode.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCS30	830245/006	2012-03-03	2013-03-02
Rohde & Schwarz	L.I.S.N.	ESH2-Z5	892107/021	2012-03-09	2013-03-08
Rohde & Schwarz	Pulse limiter	ESH3Z2	DE25985	2011-07-08	2012-07-07

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

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 18, with the worst margin reading of:

2.22 dB at **22.385** MHz in the **Line** conducted mode

Test Data

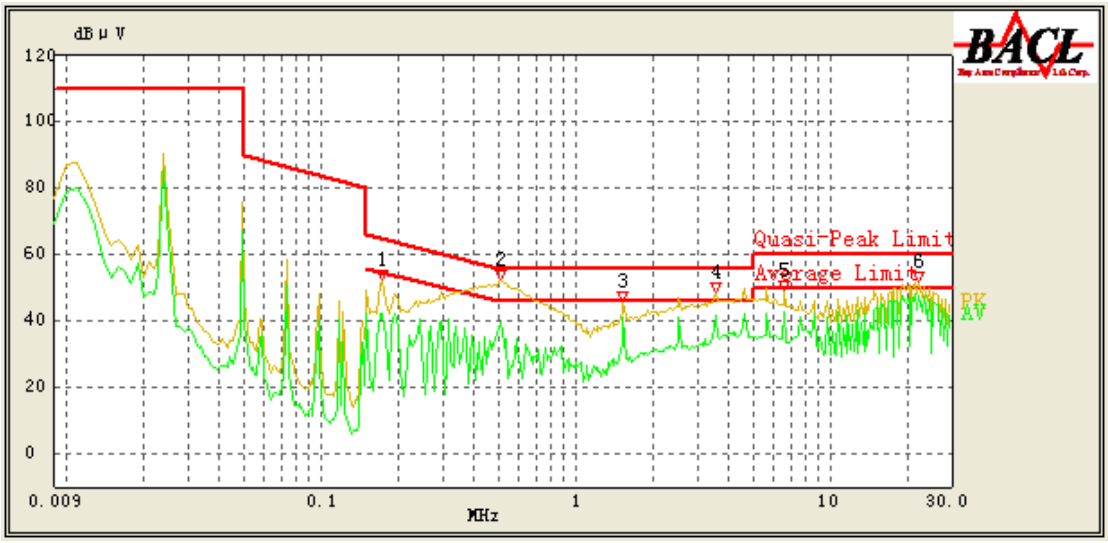
Environmental Conditions

Temperature:	25 °C
Relative Humidity:	48 %
ATM Pressure:	100.0 kPa

Testing was performed by Lebron Wang on 2012-03-21.

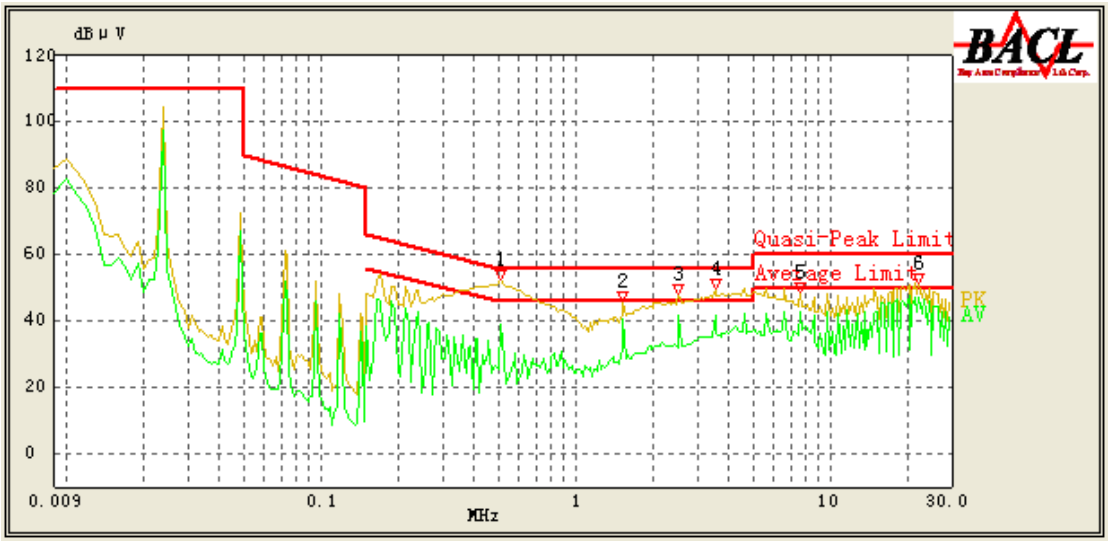
Test Mode: Running (Max power)

AC 120V/60 Hz, Line:



Frequency (MHz)	Corrected Amplitude (dBµV)	Correction Factor (dB)	Limit (dBµV)	Margin (dB)	Detector (PK/Ave./QP)
22.385	47.78	11.87	50.00	2.22*	Ave.
1.525	41.02	10.29	46.00	4.98	Ave.
3.560	40.69	10.47	46.00	5.31	Ave.
0.510	39.46	10.23	46.00	6.54	Ave.
6.615	42.58	10.72	50.00	7.42	Ave.
22.385	48.34	11.87	60.00	11.66	QP
0.175	42.53	10.23	55.29	12.76	Ave.
3.565	41.70	10.47	56.00	14.30	QP
1.525	41.07	10.29	56.00	14.93	QP
0.175	49.50	10.23	65.29	15.79	QP
0.510	40.06	10.23	56.00	15.94	QP
6.615	42.68	10.72	60.00	17.32	QP

AC 120V/ 60 Hz, Neutral:



Frequency (MHz)	Corrected Amplitude (dBµV)	Correction Factor (dB)	Limit (dBµV)	Margin (dB)	Detector (PK/Ave./QP)
22.390	47.31	11.87	50.00	2.69	Ave.
3.565	41.76	10.47	46.00	4.24	Ave.
2.545	40.64	10.38	46.00	5.36	Ave.
1.525	40.50	10.29	46.00	5.50	Ave.
0.510	39.29	10.23	46.00	6.71	Ave.
7.635	42.92	10.79	50.00	7.08	Ave.
0.510	43.83	10.23	56.00	12.17	QP
22.390	47.66	11.87	60.00	12.34	QP
3.565	42.34	10.47	56.00	13.66	QP
2.545	41.56	10.38	56.00	14.44	QP
1.525	41.07	10.29	56.00	14.93	QP
7.635	44.10	10.79	60.00	15.90	QP

*Within measurement uncertainty

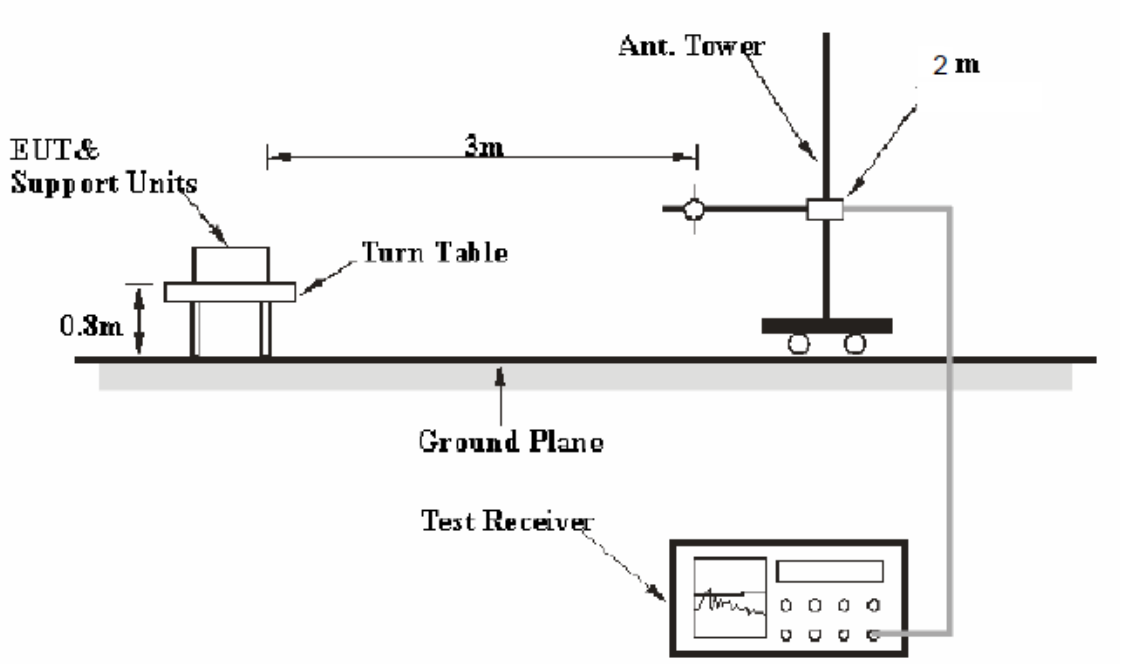
FCC §18.305 – FIELD STRENGTH

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 chamber test site, using the setup accordance with the FCC MP - 5.

The EUT was connected to 120 VAC/60 Hz power source.

EMI Test Receiver Setup and Spectrum Analyzer Setup

The system was investigated from 9 kHz to 30 MHz.

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

Frequency Range	***R B/W***	***Video B/W***	***IF B/W***
9 kHz– 150 kHz	300 Hz	1 kHz	200Hz
150 kHz– 30 MHz	10 kHz	30 kHz	9 kHz

Test Procedure

During the conducted emission test, the EUT was connected to the LISN.

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

All data was recorded in the average detection mode.

Corrected Amplitude 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:

Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss

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 7 dB below the limit. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
ETS-LINDGREN	Passive Loop Antenna	6512	00029604	2011-07-14	2012-07-13
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2011-11-11	2012-11-10

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

Test Data

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	48 %
ATM Pressure:	100.0 kPa

The testing was performed by Lebron Wang on 2012-03-21.

Test Mode: Running (Max Power)

Frequency (MHz)	Reading (dBµA/m)	Detector (PK/QP/Ave.)	Direction (Degree)	Height (m)	Antenna Factor (dB S/m)	Cable Loss (dB)	Result		Limit (dBµV/m)	Margin (dB)
							dBµA/m	dBµV/m		
0.024	0.31	Ave.	360.00	2.0	29.4	0.1	29.81	81.31	83.5	2.19*
0.048	-5.26	Ave.	360.00	2.0	20.9	0.1	15.74	67.24	83.5	16.26
0.073	-18.38	Ave.	360.00	2.0	16.9	0.1	-1.38	50.12	83.5	33.38
0.098	-23.60	Ave.	360.00	2.0	15.7	0.1	-7.80	43.7	83.5	39.80
0.122	-30.28	Ave.	360.00	2.0	13.2	0.1	-16.98	34.52	83.5	48.98
0.147	-32.22	Ave.	360.00	2.0	11.8	0.1	-20.32	31.18	83.5	52.32

Note: dBµV/m= dBµA/m+51.5

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