

# FCC PART 18

## EMI MEASUREMENT AND TEST REPORT

For  
**Golo Chang Company Limited**  
4F, No.50-3, San Min Rd., LuChouCity, TaiBei Hsien, Taiwan, R.O.C.

### FCC ID: YRP3WAYS

Sep 13, 2010

Product Name:	CFL
Model No:	G2625EA3&G2632EA3
Sample	
Received Date:	July 28, 2010
Test	
Performed Date:	Aug 28, 2010
Test Engineer:	David Zhang <i>David Zhang</i>
Reviewed By:	Steven Hsu <i>S. Hsu</i>
Prepared By:	BEST Test Service Shenzhen Co., Ltd. C, 310-316, Huameiju Business Center, 82 Block, Baoan District, Shenzhen, China TEL: +86-755-28236006 FAX: +86-755-28236249 Email: <a href="mailto:certification@bestcert.cn">certification@bestcert.cn</a>



NVLAP LAB CODE 200770-G

Note: The test report only allows to be revised within the retention period unless further standard or the requirement was noticed. This report is for the exclusive use of BEST's Client and is provided pursuant to the agreement between BEST and its Client. BEST's responsibility and Liability are limited to the terms and conditions of the agreement. BEST assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the BEST name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by BEST. The observations and test results in this report are relevant only to the sample tested. This report by itself does not that the material, product, of service is or has ever been under an BEST certification program. National Voluntary Laboratory Accreditation Program (NVLAP) has accredited this laboratory under ISO17025: 2005 for specific laboratory activities as listed in the NVLAP directory of accredited laboratories. The results shown in this report were determined by this laboratory in accordance with its terms of accreditation.

**TABLE OF CONTENTS**

<b>GENERAL INFORMATION.....</b>	<b>3</b>
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT).....	3
OBJECTIVE .....	3
RELATED SUBMITTAL(S)/GRANT(S) .....	3
TEST METHODOLOGY .....	3
TEST FACILITY .....	3
<b>SYSTEM TEST CONFIGURATION .....</b>	<b>4</b>
JUSTIFICATION.....	4
SCHEMATICS / BLOCK DIAGRAM.....	4
EQUIPMENT MODIFICATIONS .....	4
CONFIGURATION OF TEST SYSTEM.....	4
TEST SETUP BLOCK DIAGRAM .....	4
<b>CONDUCTED EMISSIONS TEST DATA.....</b>	<b>5</b>
APPLICABLE STANDARD .....	5
MEASUREMENT UNCERTAINTY .....	5
EUT SETUP .....	5
TEST EQUIPMENTS .....	6
TEST PROCEDURE .....	6
SUMMARY OF TEST RESULTS .....	6
CONDUCTED EMISSIONS TEST DATA AND PLOTS .....	7

## GENERAL INFORMATION

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

The Golo Chang Company Limited's model G2625EA3&G2632EA3 or the "EUT" as referred to in this report is CFL, rated input voltage: AC 120V/60Hz, operation frequency between 40 KHz to 60 KHz.

Model	G2625EA3	Electrical Power	25W
Model	G2632EA3	Electrical Power	32W

*The test data was only good for the test sample. It may have deviation for other test sample.*

### Objective

The following test report is prepared on behalf of Golo Chang Company Limited. 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 demonstrate compliance with FCC Part 18 limit requirements for Industrial, Scientific, and Medical Equipment.

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

No Related Submittals.

### Test Methodology

All measurements contained in this report were conducted with MP-5 1986, FCC Method of measurements of radio noise emission from Industrial, Scientific and Medical equipments.

### Test Facility

All measurement facilities used to collect the data are located at Huatongwei Building , Keji Rd, 12 S, high-Tech Park, Nanshan District, Shenzhen, China.

The sites are constructed in conformance with the requirements of ANSI C63.7/634 and CISPR 22, The site was accredited by FCC (662850), A2LA( 2243.01) and CNAL (L1225)

## SYSTEM TEST CONFIGURATION

### Justification

The EUT was tested under normal mode as used by a common (typical) user.

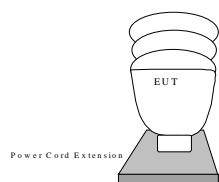
### Schematics / Block Diagram

N/A.

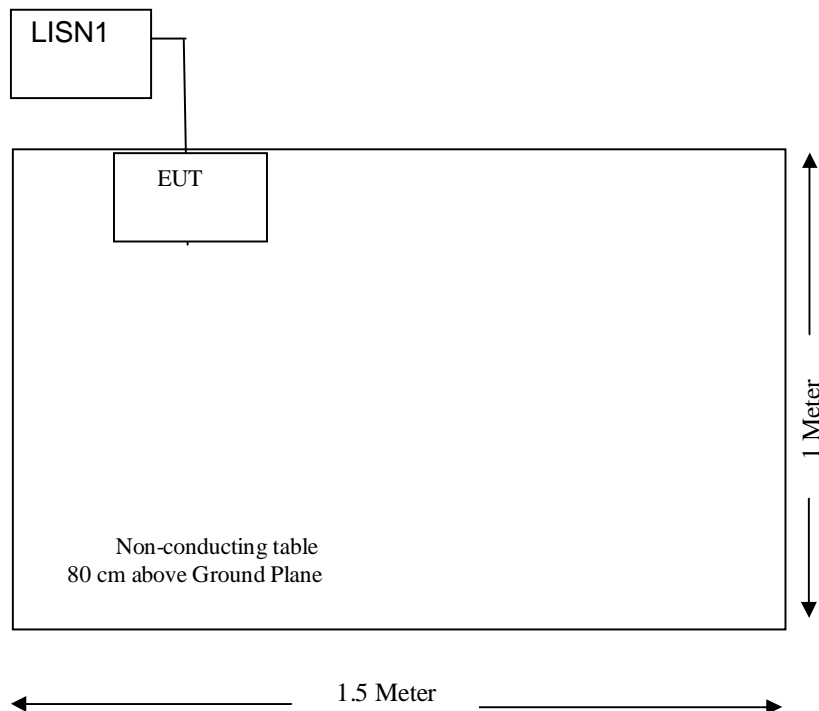
### Equipment Modifications

No modifications were made by BEST TEST SERVICE Shenzhen CO., LTD. to ensure the EUT to comply with the application limits and requirements.

### Configuration of Test System



### Test Setup Block Diagram



## CONDUCTED EMISSIONS TEST DATA

### Applicable Standard

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  $\mu$ H/50 ohms line impedance stabilization network (LISN).

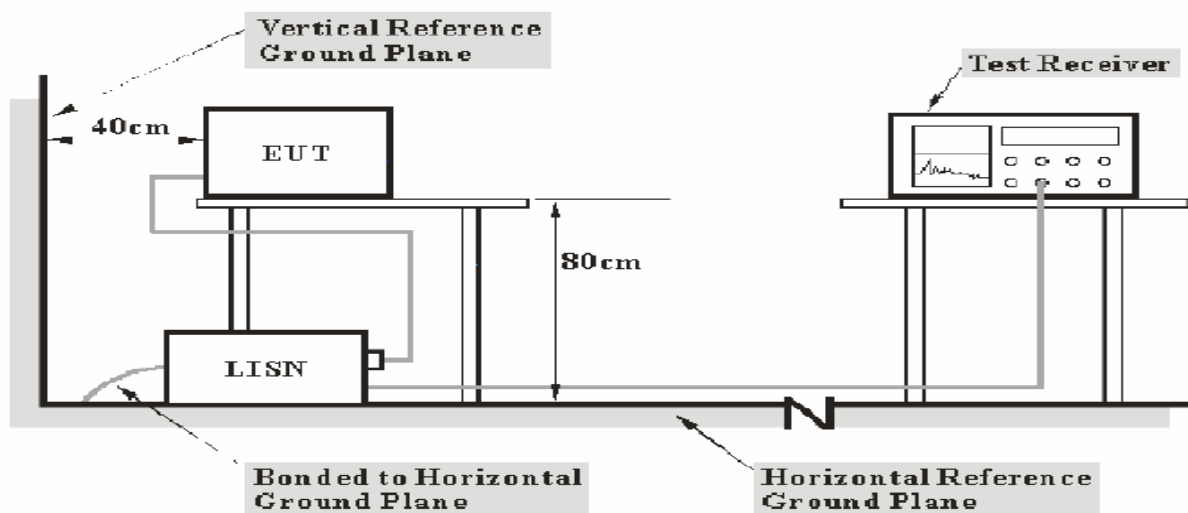
Frequency Range (MHz)	Max RF Voltage ( $\mu$ V)	Max RF Voltage (dBuV)
Non-consumer equipment		
0.45 to 1.6	1,000	60.0
1.6 to 30	3,000	69.0
Consumer equipment		
0.45 to 2.51	250	48.0
2.51 to 3.0	3000	69.0
3.0 to 30	250	48.0

### Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMI. The factors contributing to uncertainties are EMI Test Receiver, cable loss, and LISN.

Based on NIS 81, The Treatment of Uncertainty in EMI Measurements, the best estimate of the uncertainty of any conducted emissions measurement at BEST TEST SERVICE Shenzhen CO., LTD. is  $\pm 2.0$  dB.

### 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 measurement procedure. The specification used was the FCC Part 18 limits.

The EUT was connected to the power cord extension and placed on the left of the back edge on the test table.

The power cord extension was connected with 120 VAC/60 Hz power source.

## Test Equipments

Manufacturer	Description	Model	Serial Number	Cal. Date	Cal. Due. Date
ROHDE & SCHWARZ	EMI TEST RECEIVER	ESCS30	100038	2010-08-05	2011-08-05
ROHDE & SCHWARZ	L.I.S.N	ESH2-Z5	100028	2010-08-05	2011-08-05
ROHDE & SCHWARZ	Pulse Limiter	ESHSZ2	100044	2010-08-05	2011-08-05

Statement of traceability: BEST attests that all calibrations have been performed per the CNAL /A2LA requirements, traceable to NIM China

## Test Procedure

During the conducted emission test, the power cord of the power cord extension was connected to the auxiliary outlet of the first LISN.

Maximizing procedure was performed on the six (6) highest emissions to ensure that the EUT is compliant with all installation combination.

All data was recorded in the peak detection mode. Quasi-peak readings were only performed when an emission was found to be marginal (within 4 dB $\mu$ V of specification limits). Quasi-peak readings are distinguished with a "Qp".

The EUT was tested under the normal modes during the final qualification test to represent the worst-case results.

## Summary of Test Results

### Pass

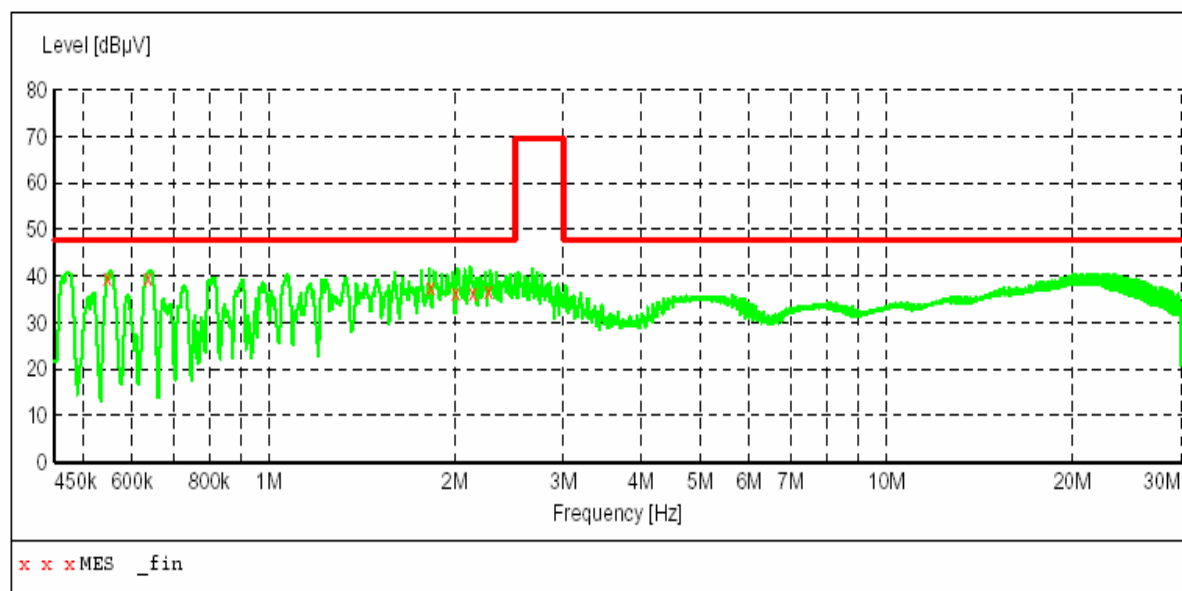
The EUT complied with the FCC 18 Conducted margin for industry, scientific and medical device, and with the worst margin reading of:

**Conducted Emissions Test Data and Plots***BEST Test Service Shenzhen Co., Ltd***Voltage Mains Test FCC PART 18**

EUT: CFL M/N:G2625EA3  
Manufacturer: GOLO  
Operating Condition: ON  
Test Site: SHIELDED ROOM  
Operator: Paul  
Test Specification: AC 120V/60Hz  
Comment:  
Start of Test: 8/28/2010

**SCAN TABLE: "Voltage (9K-30M)FIN"**

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

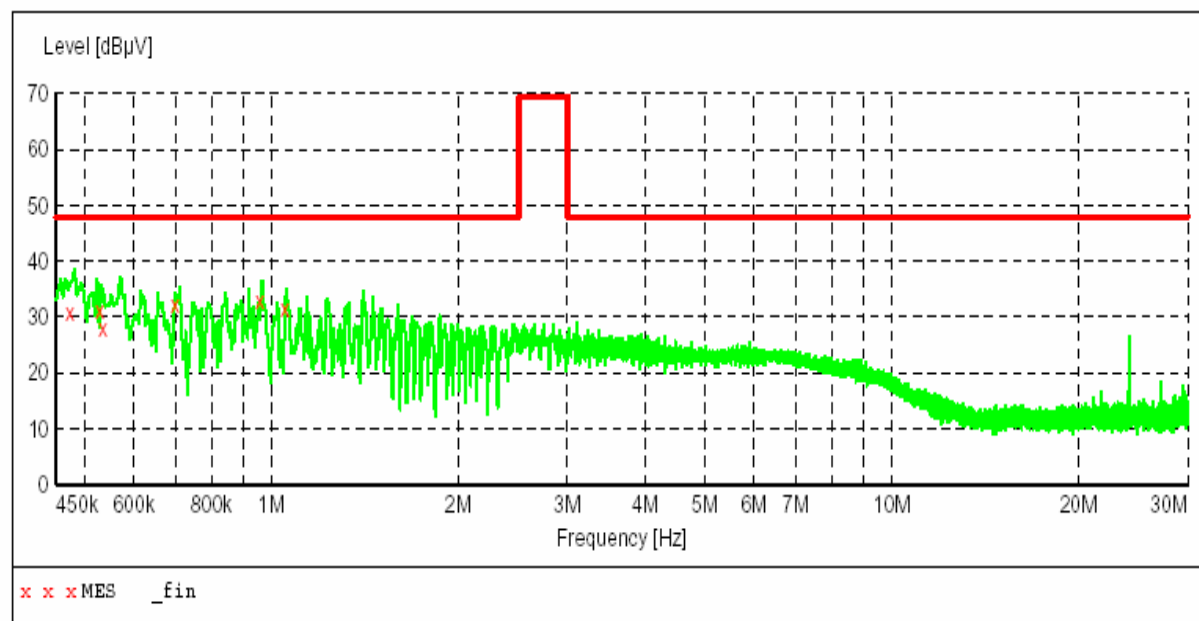
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.548000	39.80	10.1	48	8.1	QP	N	GND
0.636000	39.40	10.1	48	8.5	QP	N	GND
1.826000	37.70	10.2	48	10.2	QP	N	GND
2.012000	36.20	10.2	48	11.7	QP	N	GND
2.136000	36.50	10.2	48	11.4	QP	N	GND
2.266000	36.70	10.2	48	11.2	QP	N	GND

**BEST TEST SERVICE SHENZHEN CO.,LTD****Voltage Mains Test FCC PART 18**

EUT: CFL M/N:G2625EA3  
Manufacturer: GOLA  
Operating Condition: ON  
Test Site: 3# SHIELDED ROOM  
Operator: BYRON  
Test Specification: AC 120V/60Hz  
Comment:  
Start of Test: 8/28/2010

**SCAN TABLE: "FCC 18 LIGHT FIN"**

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.474000	30.90	10.4	48	17.0	QP	L1	GND
0.528000	31.30	10.4	48	16.6	QP	L1	GND
0.536000	28.00	10.4	48	19.9	QP	L1	GND
0.700000	32.20	10.4	48	15.7	QP	L1	GND
0.960000	32.80	10.5	48	15.1	QP	L1	GND
1.048000	31.50	10.5	48	16.4	QP	L1	GND

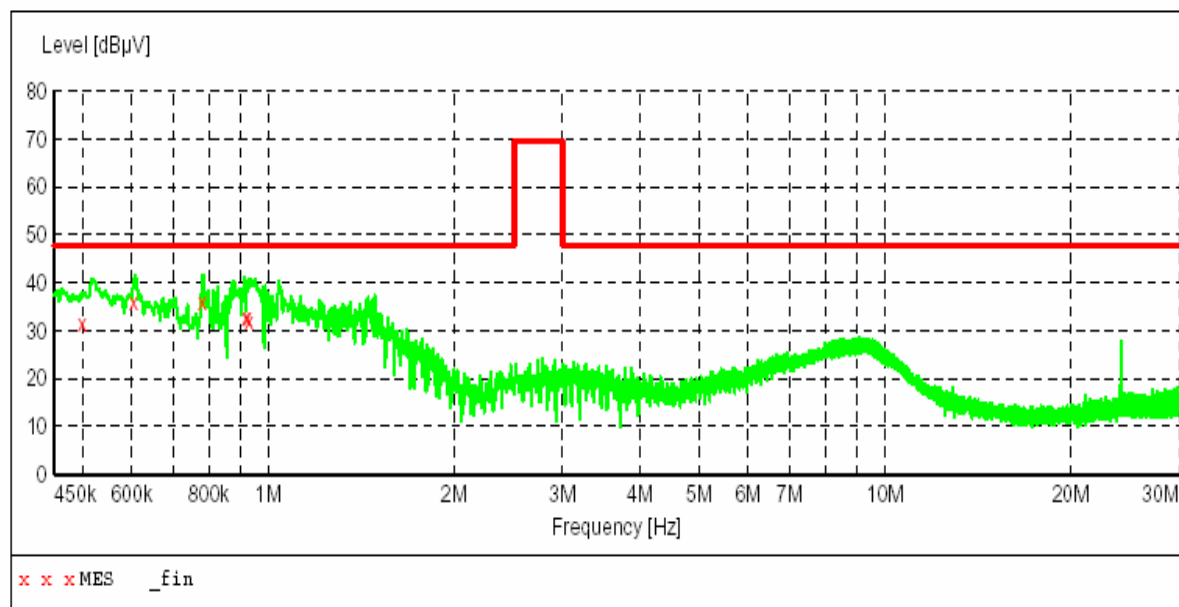


**BEST TEST SERVICE SHENZHEN CO.,LTD****Voltage Mains Test FCC PART 18**

EUT: CFL M/N:G2632EA3  
Manufacturer: GOLO  
Operating Condition: ON  
Test Site: 3# SHIELDED ROOM  
Operator: BYRON  
Test Specification: AC 120V/60Hz  
Comment:  
Start of Test: 8/28/2010

**SCAN TABLE: "FCC 18 LIGHT FIN"**

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

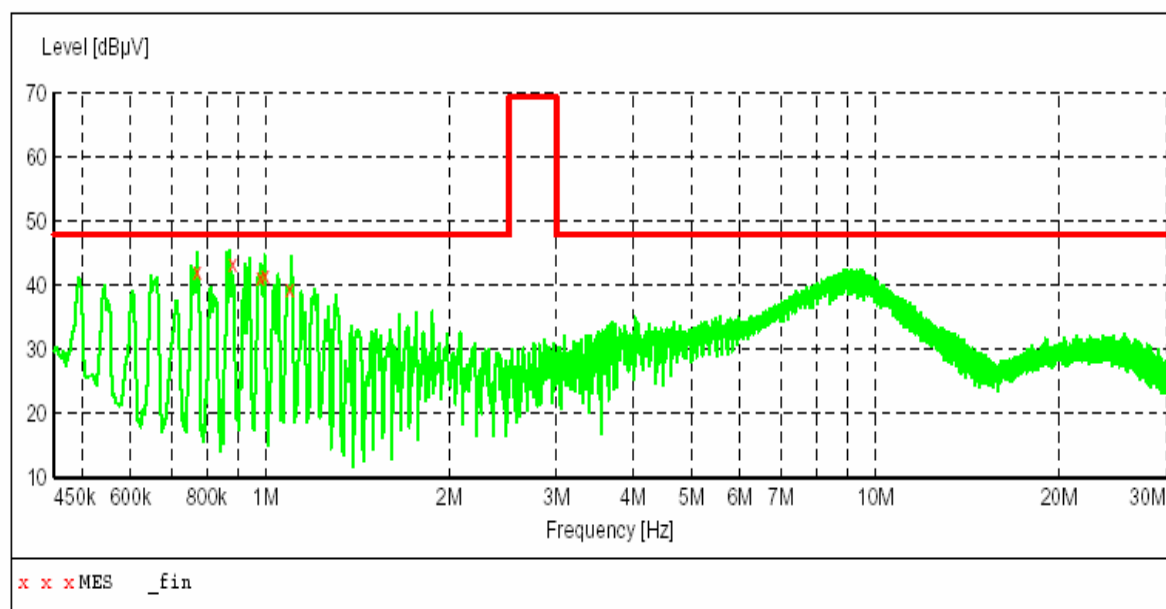
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.500000	31.40	10.4	48	16.5	QP	N	GND
0.604000	35.90	10.4	48	12.0	QP	N	GND
0.780000	36.00	10.4	48	11.9	QP	N	GND
0.920000	32.60	10.5	48	15.3	QP	N	GND
0.924000	32.60	10.5	48	15.3	QP	N	GND
0.928000	32.10	10.5	48	15.8	QP	N	GND

**BEST TEST SERVICE SHENZHEN CO.,LTD****Voltage Mains Test FCC PART 18**

EUT: CFL M/N:G2632EA3  
Manufacturer: GOLO  
Operating Condition: ON  
Test Site: 3# SHIELDED ROOM  
Operator: BYRON  
Test Specification: AC 120V/60Hz  
Comment:  
Start of Test: 8/28/2010

**SCAN TABLE: "FCC 18 LIGHT FIN"**

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT:**

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.772000	42.20	10.4	48	5.7	QP	L1	GND
0.884000	43.40	10.4	48	4.5	QP	L1	GND
0.980000	41.30	10.5	48	6.6	QP	L1	GND
0.996000	41.50	10.5	48	6.4	QP	L1	GND
1.092000	39.50	10.5	48	8.4	QP	L1	GND