

# 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: YRPCANDELABRA**

Sep 13, 2010

Product Name:	CFL
Model No:	G120427 & G120727
Sample	
Received Date:	July 28, 2010
Test	
Performed Date:	Aug 28, 2010
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NVLAP LAB CODE 200770-0

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## GENERAL INFORMATION

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

The Golo Chang Company Limited's model G120427 & G120727 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	G120427	Electrical Power	4W
Model	G120727	Electrical Power	7W

*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.

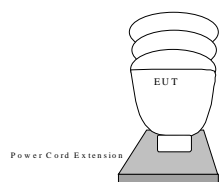
### Schematics / Block Diagram

N/A.

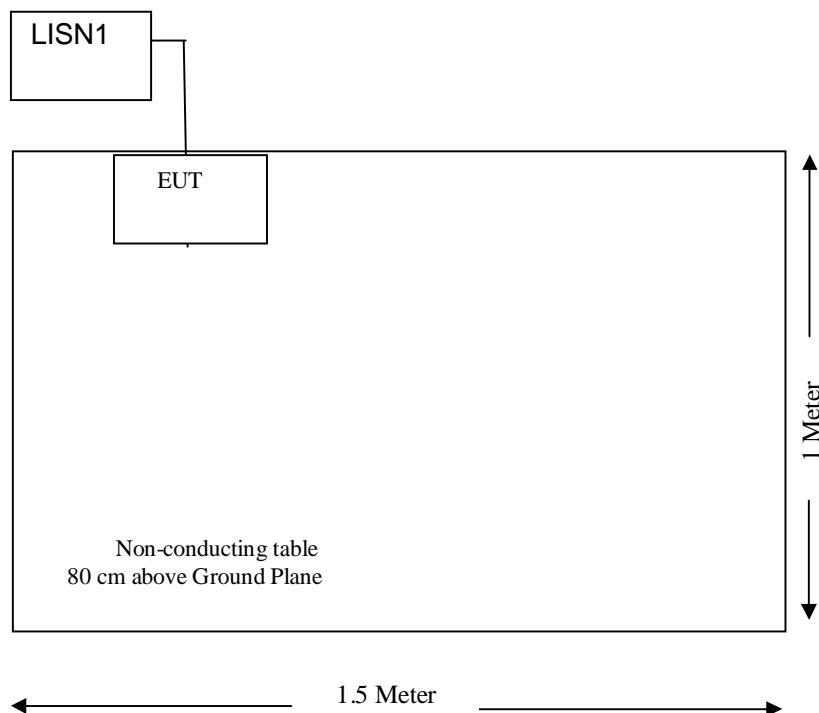
### Equipment Modifications

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).

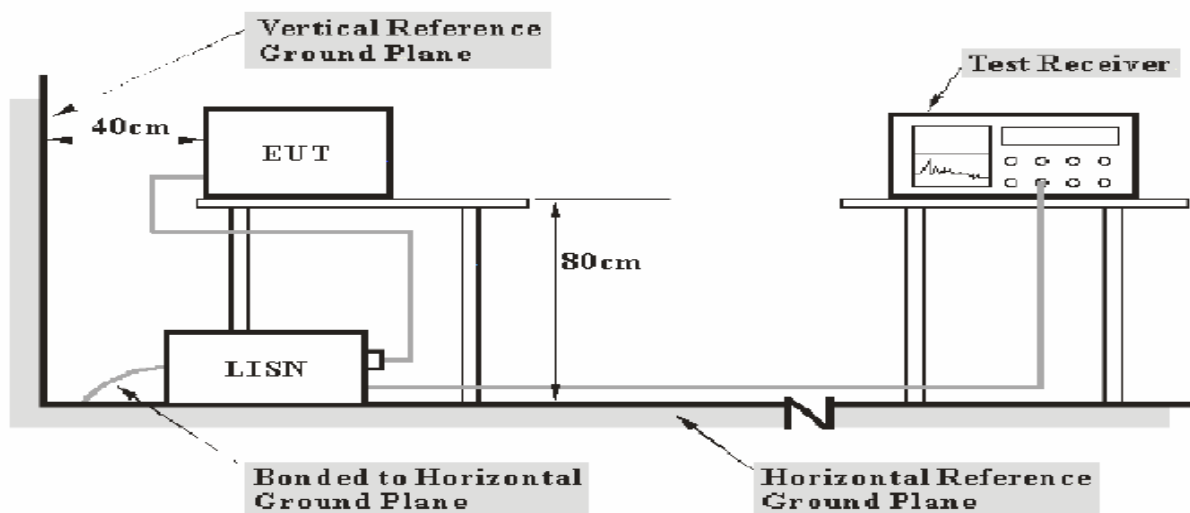
Frequency Range (MHz)	Max RF Voltage ( $\mu$ V)	Max RF Voltage (dBuV)
Non-consumer equipment		
0.45 to 1.6	1,000	60.0
1.6 to 30	3,000	69.0
Consumer equipment		
0.45 to 2.51	250	48.0
2.51 to 3.0	3000	69.0
3.0 to 30	250	48.0

### 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

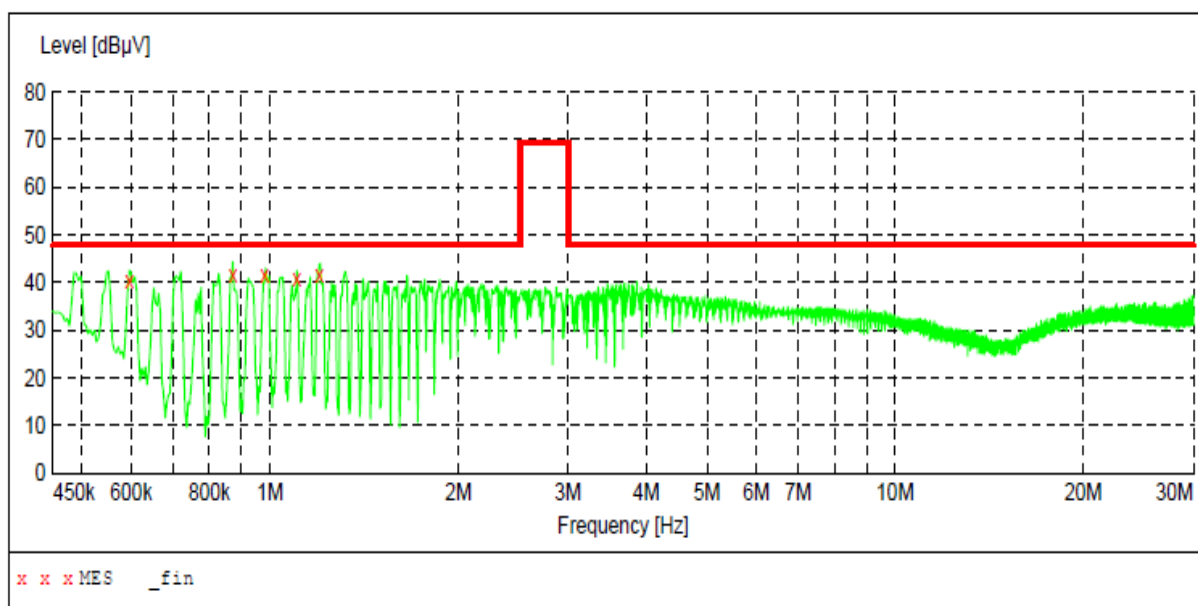
The EUT complied with the FCC 18 Conducted margin for industry, scientific and medical device, and with the worst margin reading of:

**Conducted Emissions Test Data and Plots****BEST TEST SERVICE SHENZHEN CO.,LTD****Voltage Mains Test FCC PART 18**

EUT: CFL M/N:G120427  
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:**

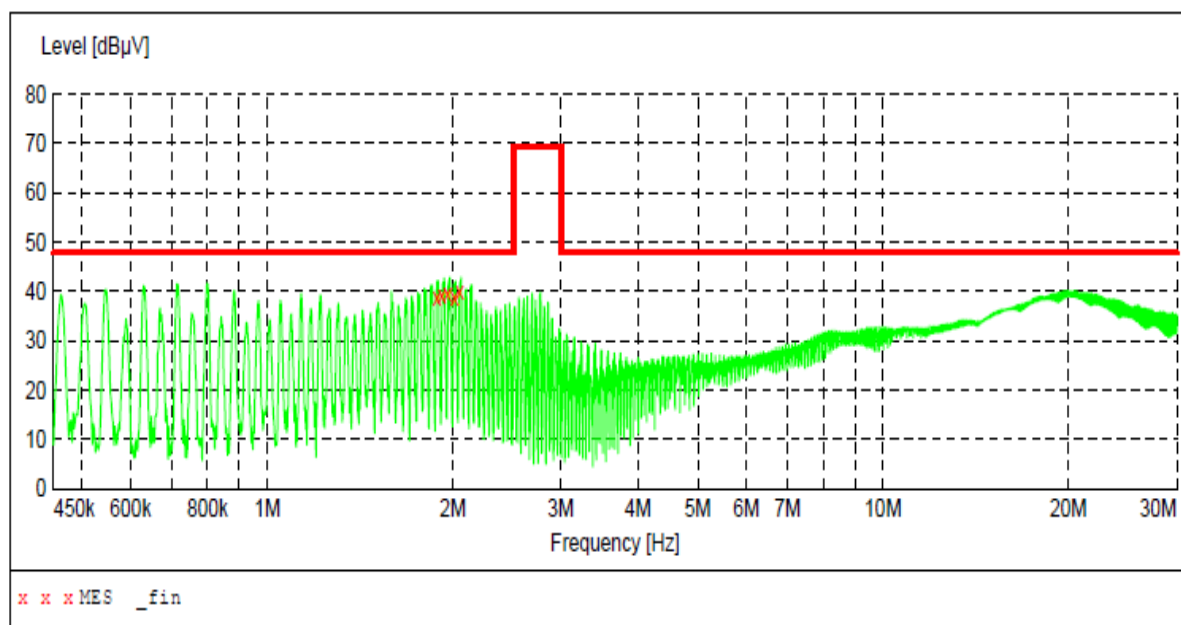
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.596000	40.60	10.4	48	7.3	QP	N	GND
0.872000	41.70	10.4	48	6.2	QP	N	GND
0.980000	41.70	10.5	48	6.2	QP	N	GND
1.104000	40.80	10.5	48	7.1	QP	N	GND
1.200000	41.80	10.5	48	6.1	QP	N	GND

**BEST Test Service Shenzhen Co., Ltd****Voltage Mains Test FCC PART 18**

EUT: CFL M/N:G120427  
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
1.888000	39.00	10.2	48	8.9	QP	L1	GND
1.920000	39.20	10.2	48	8.7	QP	L1	GND
1.962000	39.50	10.2	48	8.4	QP	L1	GND
2.014000	39.00	10.2	48	8.9	QP	L1	GND
2.056000	40.00	10.2	48	7.9	QP	L1	GND

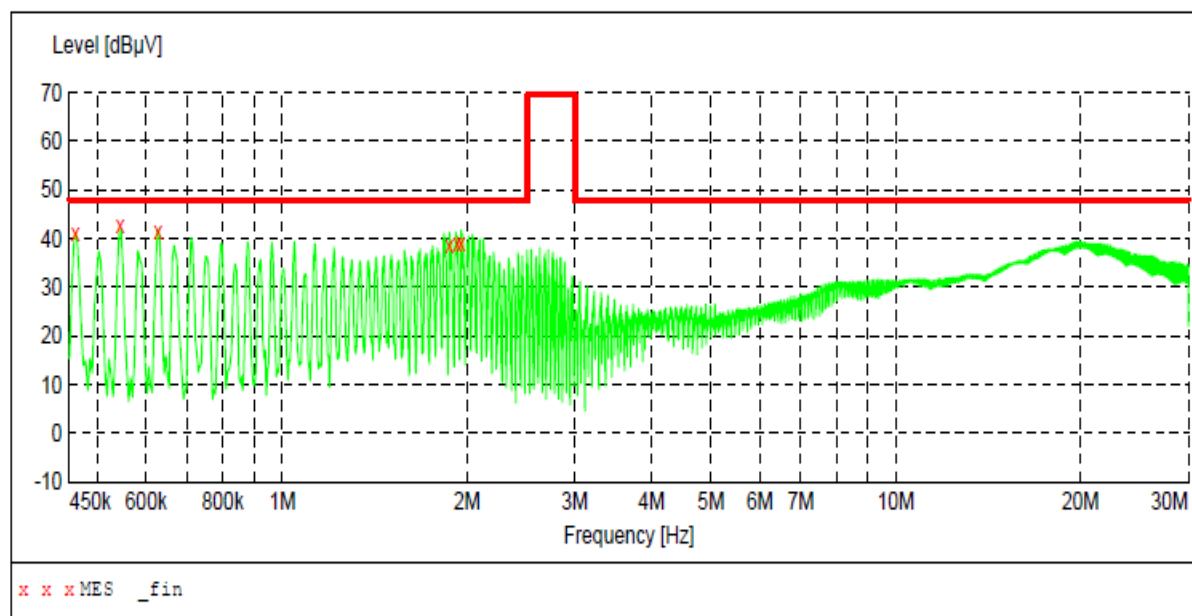


**BEST Test Service Shenzhen Co., Ltd****Voltage Mains Test FCC PART 18**

EUT: CFL M/N:G120727  
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:**

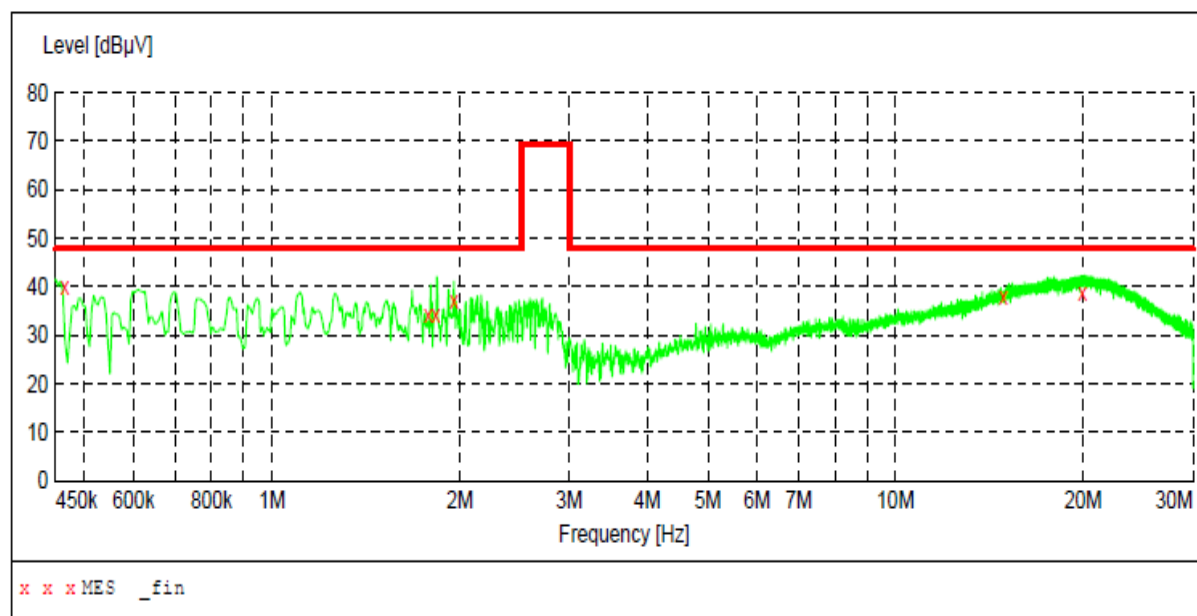
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.460000	41.30	10.1	48	6.6	QP	N	GND
0.544000	42.60	10.1	48	5.3	QP	N	GND
0.628000	41.70	10.1	48	6.2	QP	N	GND
1.872000	38.70	10.2	48	9.2	QP	N	GND
1.928000	39.20	10.2	48	8.7	QP	N	GND
1.956000	39.20	10.2	48	8.7	QP	N	GND

**BEST Test Service Shenzhen Co., Ltd****Voltage Mains Test FCC PART 18**

EUT: CFL M/N:G120727  
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
0.466000	39.90	10.1	48	8.0	QP	L1	GND
1.782000	34.30	10.2	48	13.6	QP	L1	GND
1.832000	34.40	10.2	48	13.5	QP	L1	GND
1.958000	37.20	10.2	48	10.7	QP	L1	GND
14.876000	37.90	10.6	48	10.0	QP	L1	GND
19.952000	38.80	11.1	48	9.1	QP	L1	GND