







## ISO/IEC17025 Accredited Lab.

Report No: FCC 1306132 File reference No: 2013-07-10

Applicant: Ningbo Yaling Electric Appliance Co., Ltd

Product: Remote Control

Brand Name:

Model No: YLT-12,TNRC13PK, YLT-13,TNRC21, UTTNRC21, 0141479,

916-3692, TNRC22PK, TNRC23PK, HLRC23PK, 0357408

Test Standards: FCC Part 15 Subpart B: 2009

Test result:

It is herewith confirmed and found to comply with the requirements

set up by ANSI C63.4&FCC Part 15 regulations for the evaluation of

electromagnetic compatibility

Approved By

leny lang

Terry Tong

Manager

Dated: July 10, 2013

Results appearing herein relate only to the sample tested

The technical reports is issued errors and omissions exempt and is subject to withdrawal at

SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO., LTD

East 5/Block 4, Anhua Industrial Zone, No.8, Tairan Rd. Chegongmiao, FuTian District, Shenzhen, CHINA.

Tel (755) 83448688 Fax (755) 83442996

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# **Special Statement:**

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.

The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAS. This approval result is accepted by MRA of APLAC.

Our test facility is recognized, certified, or accredited by the following organizations:

### **CNAS-LAB Code: L2292**

The EMC Laboratory has been assessed and in compliance with CNAS-CL01 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of testing Laboratories.

## FCC-Registration No.: 899988

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 899988.

## IC- Registration No.: IC5205A-02

adopt any other remedies which may be appropriate."

The EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration IC No.: 5205A-02.

## VCCI- Registration No.: R-3015 and C-3332

The EMC Laboratory has been registered and fully described in a report filed with the (VCCI) Voluntary Control Council for Interference. The acceptance letter from the VCCI is maintained in our files. Registration IC No.: R-3015 and C-3332

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# **Test Report Conclusion**

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#### 1.0 General Details

#### 1.1 Test Lab Details

Name: SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO LTD

Address: East 5/Block 4, Anhua Industrial Zone, No.8, Tairan Rd. CheGongMiao, FuTian District,

Shenzhen, CHINA.

Telephone: (755) 83448688 Fax: (755) 83442996

### 1.2 Applicant Details

Applicant: Ningbo Yaling Electric Appliance Co., Ltd

Address: No. 16 Industry Road, Zhangqi Town, Cixi, China

Telephone: 0574-63753656 Fax: 0574-63753699

### 1.3 Description of EUT

Product: Remote Control

Manufacturer: Ningbo Yaling Electric Appliance Co., Ltd

Address: No. 16 Industry Road, Zhangqi Town, Cixi, China

Brand Name:

Model Number: YLT-13
Additional Model Number:

YLT-12,TNRC13PK,TNRC21,UTTNRC21,0141479,916-3692,TNRC22PK,TNRC23PK,HLRC23PK,

0357408

Rating: Input: 125V, 60Hz, 15A, 1875W

1.4 Submitted Sample: 1 Sample

1.5 Test Duration: 2013-06-24 to 2013-07-09

## 1.6 Test Uncertainty

Conducted Emissions Uncertainty = 3.6dB Radiated Emissions Uncertainty = 4.7dB

1.7 Test Engineer

The sample tested by \_\_\_\_\_\_

Print Name: Leo Lau

"The report refers only to the sample tested and does not apply to the bulk production.

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## 2.0 List of Measurement Equipment

#### 2.1 **Conducted Emission Test**

				Calibration	Calibration
Name	Model No.	Serial No.	Manufacturer	Date	Cycle
EMI Test Receiver	ESH3	860905/006	RS	2012.08.21	1Year
Spectrum Analyzer	ESA-L1500A	US37451154	HP	2012.08.21	1Year
PULSE LIMITER	ESH3-Z2	100281	RS	2012.08.21	1Year
LISN	ESH3-Z5	100294	RS	2012.08.21	1Year
LISN	ESH3-Z5	100253	RS	2012.08.21	1Year

#### 2.2 Radiated electromagnetic disturbance test

				Calibration	Calibration
Name	Model No.	Serial No.	Manufacturer	Date	Cycle
EMI Test Receiver	ESVD	100008	RS	2012.08.21	1Year
Coaxial Switch	MP59B	M70585	ANRITSU	N/A	N/A
Spectrum Analyzer	8595E	3441A00893	НР	2012.08.21	1Year
Amplifier	8447D	2727A05017	HP	2012.08.21	1Year
Bilog Antenna	VULB9163	9163/340	Schwarebeck	2012.08.21	1Year
Horn Antenna	BBHA 9120D	9120D-631	Schwarebeck	2012.08.21	1Year
Signal Generator	8657B	3208U02589	HP	2012-08-05	1Year
Rod Antenna	TL-1000		Deqing Xinqin Electronics Co., Ltd		

#### 3.0 **Technical Details**

#### 3.1 **Investigations Requested**

Perform Electromagnetic Interference [EMI] tests for FCC Requirement.

#### 3.2 **Test Standards**

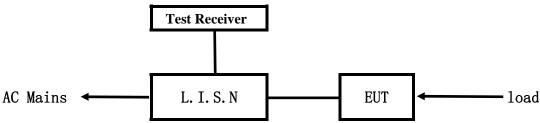
FCC Part 15 Subpart B: 2009

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### 4.0 Conducted Power line Test

#### 4.1 Schematics of the test

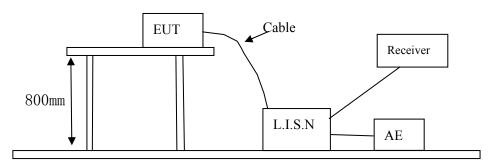


**EUT: Equipment Under Test** 

### 4.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2003. The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.4 –2003. Cables and peripherals were moved to find the maximum emission levels for each frequency.

Test Voltage: 120V~, 60Hz Block diagram of Test setup



## 4.3 Power line conducted Emission Limit

Fraguanay(MHz)	Class A Li	mits dB(μV)	Class B Limits dB(µV)		
Frequency(MHz)	Quasi-peak Level	Average Level	Quasi-peak Level	Average Level	
$0.15 \sim 0.50$	79.00	66.00	66.00~56.00*	56.00~46.00*	
$0.50 \sim 5.00$	73.00	60.00	56.00	46.00	
5.00 ~ 30.00	73.00	60.00	60.00	50.00	

Notes:

- 1. \*decreasing linearly with logarithm of frequency.
- 2. The tighter limit shall apply at the transition frequencies

#### 4.4 Test Results

The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

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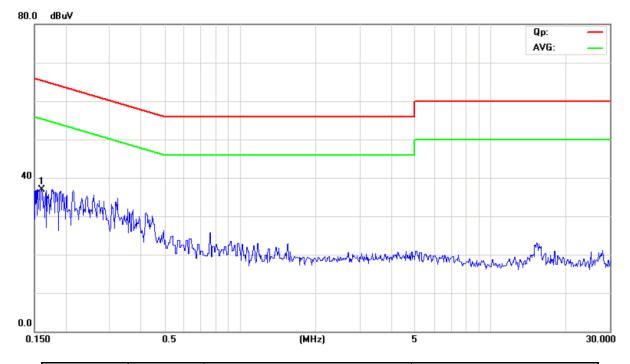
## A: Conducted Emission on Live Terminal (150kHz to 30MHz)

**EUT Operating Environment** 

Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 KPa

**EUT set Condition: Receiving Equipment Level: Class B** 

**Results: Pass** 



Frequency	Lina	Reading(	dBμV)	Limit(dBµV)	
(MHz)	Line	Quasi-peak	Average	Quasi-peak	Average
0.162	Live	36.89	-	65.40	55.40

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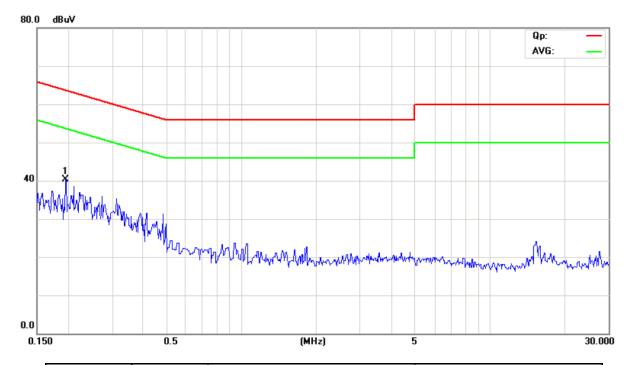
## B: Conducted Emission on Neutral Terminal (150kHz to 30MHz)

**EUT Operating Environment** 

Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 KPa

**EUT set Condition: Receiving Equipment Level: Class B** 

**Results: Pass** 



Frequency	Line	Reading(dBµV)		Limit(dBµV)	
(MHz)		Quasi-peak	Average	Quasi-peak	Average
0.196	Neutral	40.39	-	63.77	

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#### 5.0 Radiated Disturbance Test

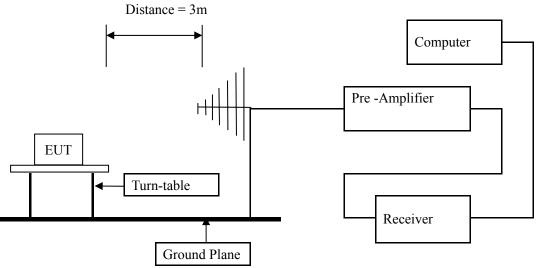
#### 5.1 Schematics of the test



## 5.2 Test Method and test Procedure:

The EUT was tested according to ANSI C63.4 –2003; The frequency spectrum from 30MHz to 1GHz was investigated. All reading from 30MHz to 1GHz are quasi-peak 0values with a resolution bandwidth of 120kHz. All readings are above 1GHz, peak values with a resolution bandwidth of 1MHz. Measurements were made at 3 meters.

Test Voltage: 120V~, 60Hz Block diagram of Test setup



### 5.3 Radiated Emission Limit

Frequency Range (MHz)	Distance (m)	Field strength (dB µ V/m)
30-88	3	40.00
88-216	3	43.50
216-960	3	46.00
Above 960	3	54.00

Note: The lower limit shall apply at the transition frequencies

### 5.4 Test result

The frequency spectrum from 30MHz to 2GHz was investigated. All reading from 30MHz to 1GHz are quasi-peak values with a resolution bandwidth of 120kHz. All readings are above 1GHz, peak values with a resolution bandwidth of 1MHz. Measurements were made at 3 meters.

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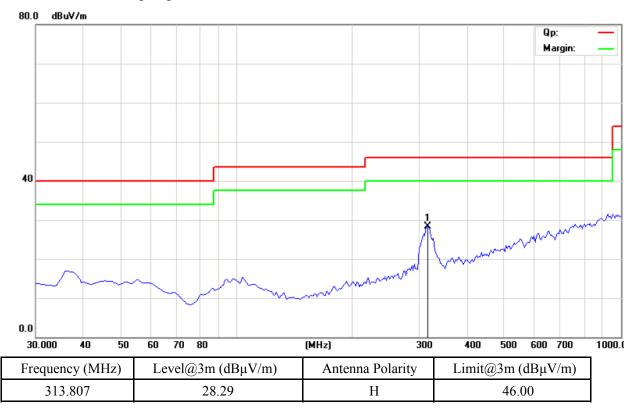
### A: Radiated Disturbance (30MHz----1000MHz)

## **EUT Operating Environment**

Temperature: 25°C Humidity: 75%RH Atmospheric Pressure: 101 KPa

EUT set Condition: Receiving Equipment Level: Class B

**Results: Pass** 



<sup>&</sup>quot;The report refers only to the sample tested and does not apply to the bulk production.

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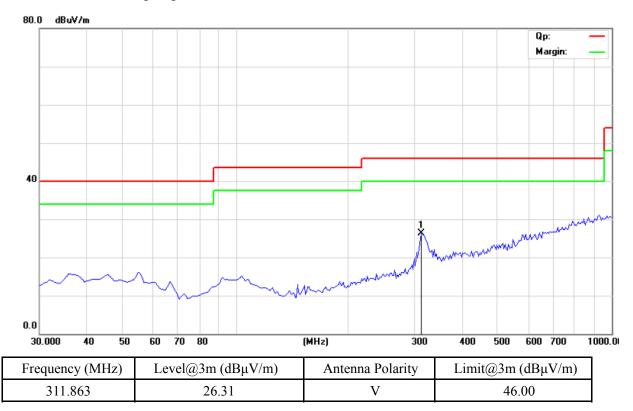
### **B:** Radiated Disturbance (30MHz----1000MHz)

## **EUT Operating Environment**

Temperature:25°C Humidity: 75%RH Atmospheric Pressure: 101 KPa

EUT set Condition: Receiving Equipment Level: Class B

**Results: Pass** 



<sup>&</sup>quot;The report refers only to the sample tested and does not apply to the bulk production.

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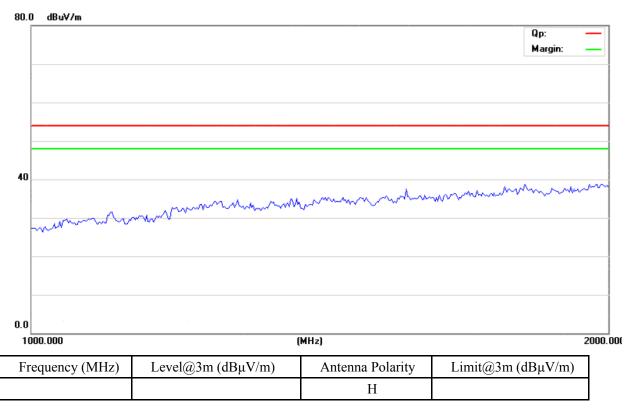
## C: Radiated Disturbance (1000MHz----2000MHz)

**EUT Operating Environment** 

Temperature: 25°C Humidity: 75%RH Atmospheric Pressure: 101 KPa

**EUT set Condition: Receiving Equipment Level: Class B** 

**Results: Pass** 



<sup>-</sup>The test data shows much less than the limit, no necessary take down the results.

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#### D: Radiated Disturbance (1000MHz----2000MHz)

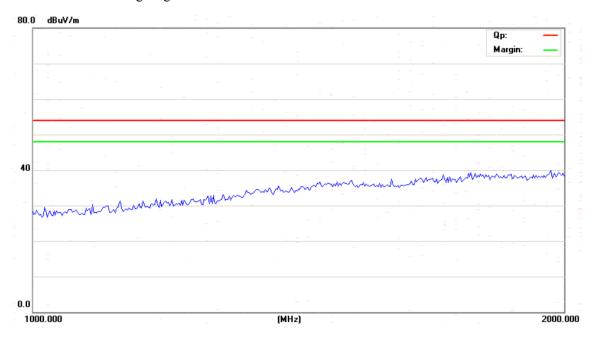
### **EUT Operating Environment**

Temperature:25°C Humidity: 75%RH Atmospheric Pressure: 101 KPa

**EUT set Condition: Receiving Equipment Level: Class B** 

**Results: Pass** 

Please refer to following diagram for individual



Frequency (MHz)	Level@3m ( $dB\mu V/m$ )	Antenna Polarity	Limit@3m ( $dB\mu V/m$ )
		V	

<sup>-</sup>The test data shows much less than the limit, no necessary take down the results.

Note: for the emission test, A 315MHz CW signal was injected (radiated) from a nearby signal generator using a rod antenna

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#### 6.0 FCC ID: 2AAO6YLT-13

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

Mark Location: On the product body

Date: 2013-07-10



## 7.0 Photo of testing

#### Conducted test View— 7.1

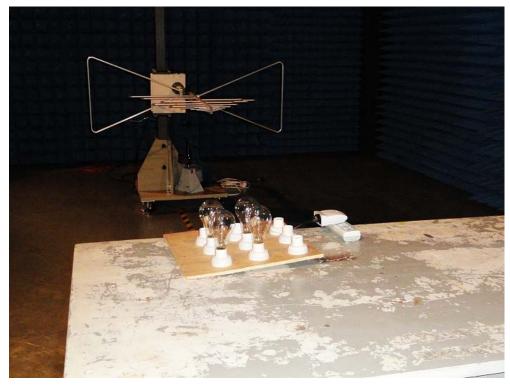


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#### 7.2 Radiated emission test view--





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#### 7.3 Photo for the EUT (YLT-13)

### Front View





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## Back View



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## Photo for the EUT





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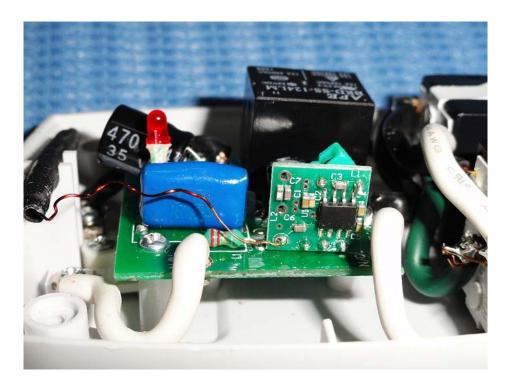
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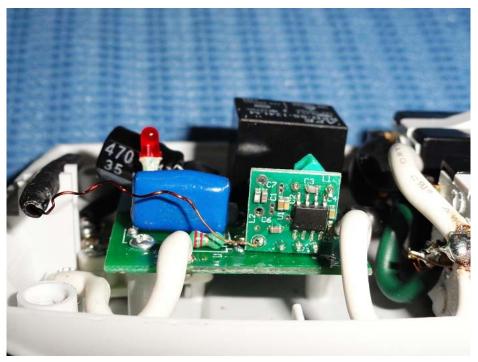
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## Interior View





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## Interior View





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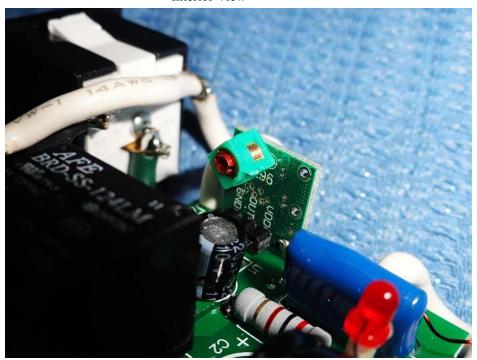
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## Interior View



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#### Photo for the EUT (YLT-12)

### Front View





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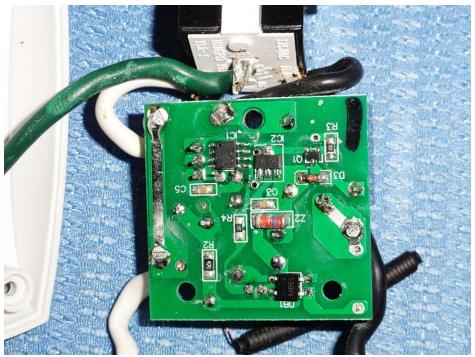
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## Interior View





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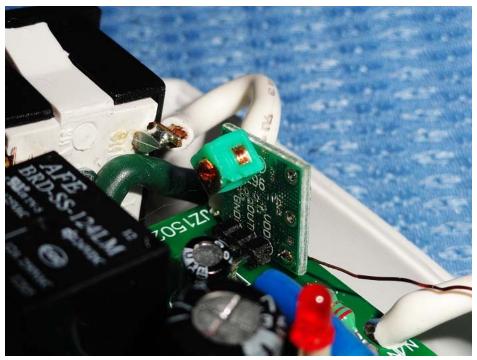
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## Interior View





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