



Report No: FCC1706210 File reference No: 2017-06-26

Applicant: King of Fans, Inc.

Product: 52" Southwind

Model No: 52-RMG

Trademark: Hampton Bay

Test Standards: FCC Part 15 Subpart B: 2016

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

Jack Chung

Jack Chung

Manager

Dated: June 26, 2017

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 TESTING LABORATORIES

Room 512-519, 5/F., East Tower, Building 4, Anhua Industrial Zone, Futian District, Shenzhen, Guangdong, China

Tel (755) 83448688, Fax (755) 83442996, E-Mail:info@timeway-lab.com

Report No: FCC1706210 Page 2 of 31

Date: 2017-06-26



# **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**

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.

Page 3 of 31

Report No: FCC1706210

Date: 2017-06-26



# **Test Report Conclusion**

#### Content

1.0	General Details	4
1.1	Test Lab Details	4
1.2	Applicant Details	4
1.3	Description of EUT	4
1.4	Test Uncertainty.	4
1.5	Submitted Sample	4
1.6	Test Duration.	4
2.0	List of Measurement Equipment	5
2.1	Conducted Emission Test.	5
2.2	Radiated electromagnetic disturbance test.	5
2.3	Auxiliary Equipment	5
3.0	Technical Details.	6
3.1	Investigations Requested.	6
3.2	Test Standards.	6
4.0	Power line Conducted Emission Test	7
5.0	Radiated Disturbance Test	11
6.0	FCC Label	18
7.0	Photo of testing	10

Date: 2017-06-26



### Page 4 of 31

#### 1.0 General Details

1.1 Test Lab Details

Name: SHENZHEN TIMEWAY TESTING LABORATORIES.

Address: Room 512-519,5/F., East Tower, Building 4, Anhua Industrial Zone,

Futian District, Shenzhen, Guangdong China

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

Site on File with the Federal Communications Commission – United Sates

Registration Number: 899988

For 3m & 10 m OATS

Site Listed with Industry Canada of Ottawa, Canada

Registration Number: IC: 5205A-02

For 3m & 10 m OATS

1.2 Applicant Details

Applicant: King of Fans, Inc.

Address: 1951 N.W. 22nd Street, Fort Lauderdale, FL33311, USA

Telephone: 954-484-7500 Fax: 954-784-7602

1.3 Description of EUT

Product: 52" Southwind

Manufacturer: Chienluen Industries (zhongshan) Ltd..

Address: Da Che Industrial Area, Nanlang Town, Zhongshan, Guangdong China

528451

Brand Name: Hampton Bay Model Number: 52-RMG

Rating: Input 120V, 60Hz, w/o light 0.6A 72W, w/light 0.76A 91W;

Rx Frequency: 303.9MHz

1.4 Submitted Sample: 1 Samples

1.5 Test Duration: 2017-06-21 to 2017-06-26

1.6 Test Uncertainty

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

1.7 Test Engineer

Temy Tang

The sample tested by

Print Name: Terry Tang

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

Report No: FCC1706210 Page 5 of 31

Date: 2017-06-26



## 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	2016.08.20	1Year
Spectrum Analyzer	ESA-L1500A	US37451154	НР	2016.08.20	1Year
PULSE LIMITER	ESH3-Z2	100281	RS	2016.08.20	1Year
LISN	ESH3-Z5	100294	RS	2016.08.20	1Year
LISN	ESH3-Z5	100253	RS	2016.08.20	1Year

### 2.2 Radiated electromagnetic disturbance test

				Calibration	Calibration
Name	Model No.	Serial No.	Manufacturer	Date	Cycle
EMI Test Receiver	ESI26	838786/013	RS	2016.08.19	1Year
Amplifier	8447D	2727A05017	HP	2016.08.24	1Year
Bilog Antenna	VULB9163	9163/340	Schwarebeck	2016.08.24	1Year
Horn Antenna	BBHA 9120D	9120D-631	RS	2016.08.24	1Year

### 2.3 Auxiliary Equipment

Name	Model No.	Serial No.	Manufacturer	Date	Cycle
				Calibration	Calibration

Report No: FCC1706210 Page 6 of 31

Date: 2017-06-26

#### 3.0 **Technical Details**

3.1 Investigations Requested Perform Electromagnetic Interference [EMI] tests for FCC Requirement.

3.2 Test Standards

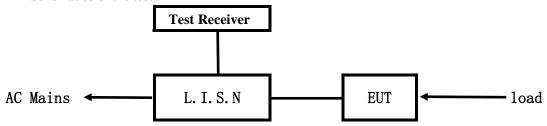
FCC Part 15 Subpart B: 2016

Date: 2017-06-26



### 4.0 Conducted Power line Test

### 4.1 Schematics of the test



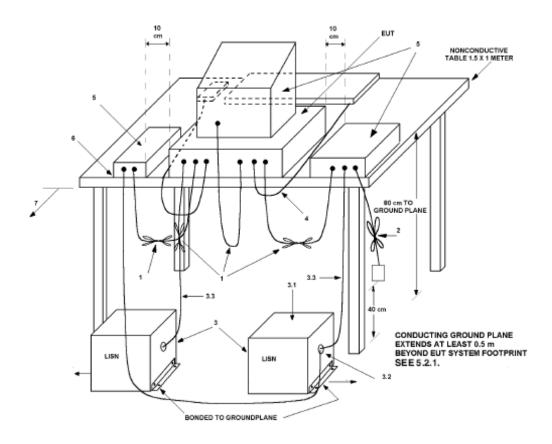
**EUT: Equipment Under Test** 

### 4.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2014. 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 –2014. Cables and peripherals were moved to find the maximum emission levels for each frequency.

Actual Working Voltage and Frequency: 120V~, 60Hz

Block diagram of Test setup



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

Report No: FCC1706210 Page 8 of 31

Date: 2017-06-26



### 4.3 Power line conducted Emission Limit

Eraguanay (MHz)	Class A Li	mits dB(μV)	Class B Limits $dB(\mu V)$		
Frequency(MHz)	Quasi-peak Level	Average Level	Quasi-peak Level	Average Level	
0.15 ~ 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	
$5.00 \sim 30.00$	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.

Date: 2017-06-26



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

**EUT Operating Environment** 

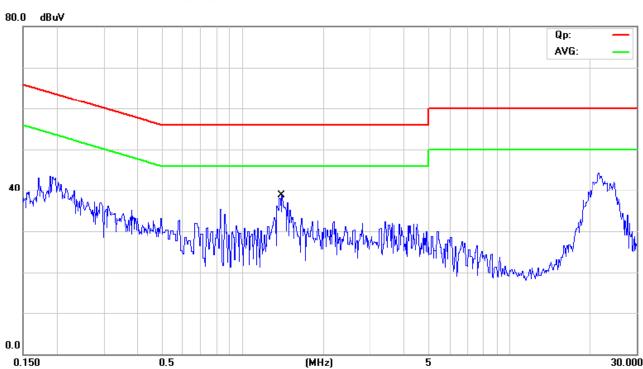
Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 KPa

**EUT set Condition: Receiving Mode** 

**Equipment Level: Class B** 

**Results: PASS** 

Please refer to following diagram for individual



No. Mk.	Freq.	Reading Level		Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1 *	1.3953	16.70	10.89	27.59	56.00	-28.41	QP	
2	1.3953	-7.90	10.89	2.99	46.00	-43.01	AVG	

Date: 2017-06-26



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

**EUT Operating Environment** 

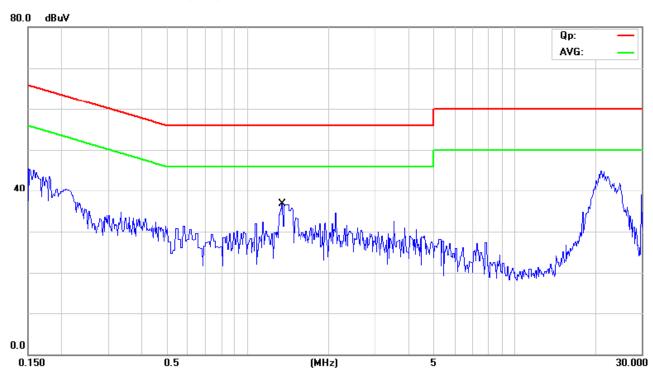
Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 KPa

**EUT set Condition: Receiving Mode** 

**Equipment Level: Class B** 

**Results: Pass** 

Please refer to following diagram for individual



•	No.	Mk.	Freq.			Measure- ment	Limit	Over		
•			MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
•	1	*	1.3495	11.10	10.89	21.99	56.00	-34.01	QP	
•	2		1.3495	-10.80	10.89	0.09	46.00	-45.91	AVG	

Page 11 of 31

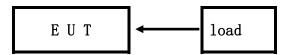
Report No: FCC1706210

Date: 2017-06-26



#### 5.0 Radiated Disturbance Test

#### 5.1 Schematics of the test

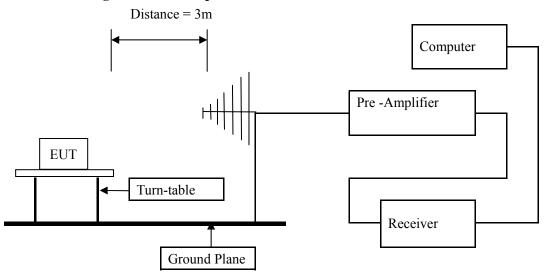


### 5.2 Test Method and test Procedure:

The EUT was tested according to ANSI C63.4 –2014; The frequency spectrum from 30MHz to 5GHz was investigated. All reading from 30MHz to 1GHz are quasi-peak values with a resolution bandwidth of 120kHz. For measurement above 1GHz, peak values with RBW=1MHz and PK detector. AV value with RBW=1MHz, VBW=10Hz and PK

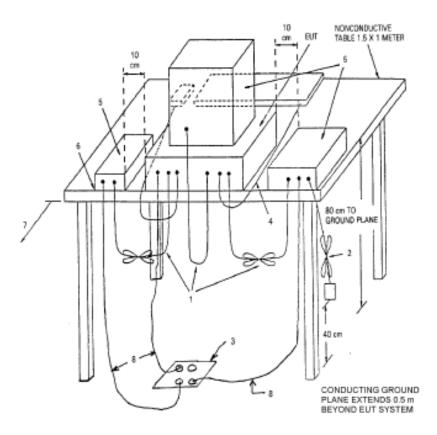
Actual Working Voltage and Frequency: 120V~, 60Hz

### **Block diagram of Test setup**



Date: 2017-06-26





#### 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: 1. The lower limit shall apply at the transition frequencies

2. This is a handhold device. The radiated emissions should be tested under 3-axes position (Lying, Side, and Stand), After pre-test. It was found that the worse radiated emission was get at the lying position.

### 5.4 Test result

The frequency spectrum from 30MHz to 5GHz was investigated. All reading from 30MHz to 1GHz are quasi-peak values with a resolution bandwidth of 120kHz. For measurement above 1GHz, peak values with RBW=VBW=1MHz and PK detector. AV value with RBW=1MHz, VBW=10Hz and PK. Measurements were made at 3 meters.

Report No: FCC1706210 Page 13 of 31

Date: 2017-06-26



#### Test result

### General Radiated Emission Data and Harmonics Radiated Emission Data

Radiated Emission In Horizontal/ In Vertical (30MHz----1000MHz)

**EUT set Condition: Receiving Mode** 

**Results:** Pass

Frequency (MHz)	Level@3m (dB \u03bc V/m)	Antenna Polarity	Limit@3m (dB \( \mu \)V/m)
153.040	30.62	Н	43.50
936.600	40.59	Н	46.00
241.080	32.61	Н	46.00
342.240	30.69	V	46.00
939.800	41.55	V	46.00
31.760	30.79	V	40.00

Report No: FCC1706210 Page 14 of 31

Date: 2017-06-26



### Test Figure:

Η MARKER 3 RBW 120 kHz Marker 3 [T1 ]  $30.62 \text{ dB}\mu\text{V/m}$ 153.04 MHz МТ 50 µs Att 10 dB 153.040000000 MHz PREAMP ON dΒμV 100 MHz Marker 59 dBµV/m 40 600000000 936 MHz 1 PK MAXH 32 61 dВ 241 080000000 M TDF FCC15BF 6DB -20 -10 0

1 GHz

Date: 23.JUN.2017 14:55:45

30 MHz

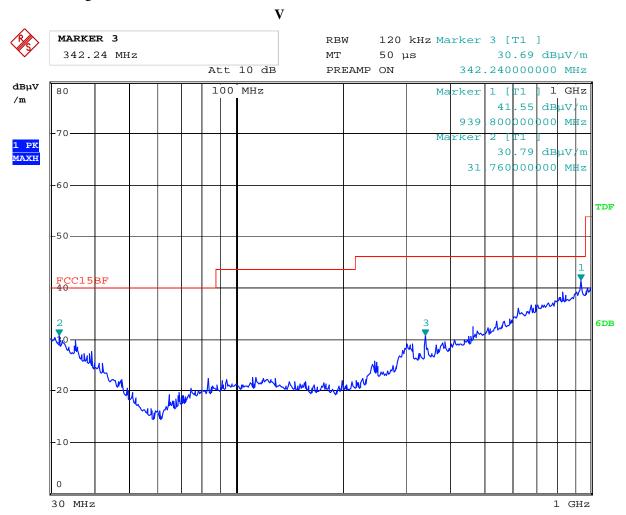
Page 15 of 31

Report No: FCC1706210

Date: 2017-06-26



### Test Figure:



Date: 23.JUN.2017 14:59:58

Report No: FCC1706210 Page 16 of 31

Date: 2017-06-26



## Radiated Disturbance (1000MHz----5000MHz)

**EUT Operating Environment** 

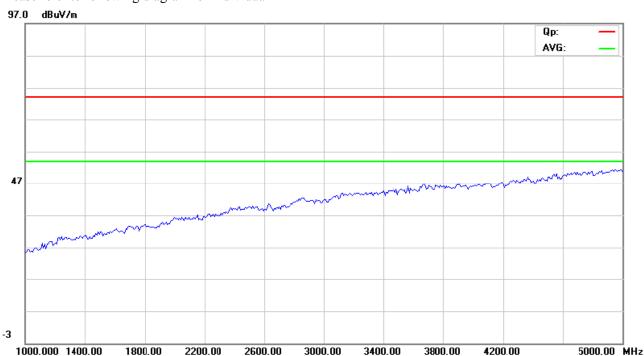
Temperature: 25°C Humidity: 75%RH Atmospheric Pressure: 101 KPa

**EUT set Condition: Receiving Mode** 

**Equipment Level: Class B** 

**Results: Pass** 

Please refer to following diagram for individual



Frequency (MHz)	Level@3m (dBµV/m)	Antenna Polarity	Limit@3m (dBµV/m)
		Н	54(AV)

Note: PK scan result curve is much lower than AV limit

Report No: FCC1706210 Page 17 of 31

Date: 2017-06-26



## Radiated Disturbance (1000MHz----5000MHz)

**EUT Operating Environment** 

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

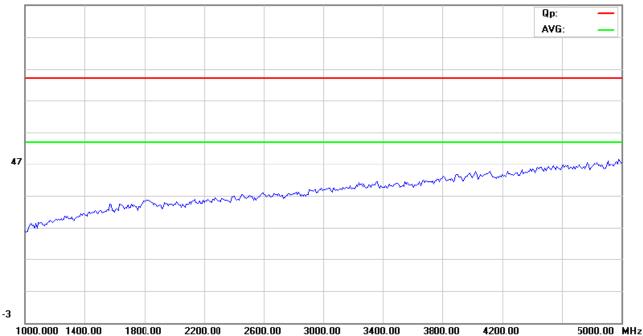
**EUT set Condition: Receiving Mode** 

**Equipment Level: Class B** 

**Results: Pass** 

Please refer to following diagram for individual





Frequency (MHz)	Level@3m (dBµV/m)	Antenna Polarity	Limit@3m ( $dB\mu V/m$ )
		V	54(AV)

Note: PK scan result curve is much lower than AV limit

Report No: FCC1706210 Page 18 of 31

Date: 2017-06-26



#### 6.0 FCC Label

#### FCC ID: RGB-52RMGC2

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.



Label Location

Report No: FCC1706210 Page 19 of 31

Date: 2017-06-26



7.0 Photo of testing

7.1 Conducted test View--



Date: 2017-06-26



#### 7.2 Radiated emission test view--





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### Photo for the EUT





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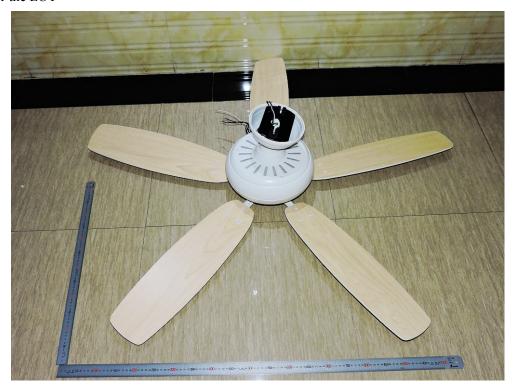
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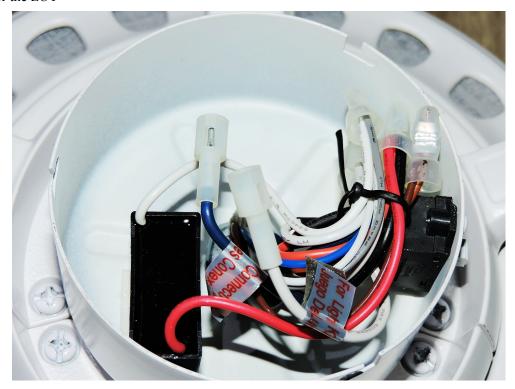
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Page 27 of 31

Report No: FCC1706210

Date: 2017-06-26



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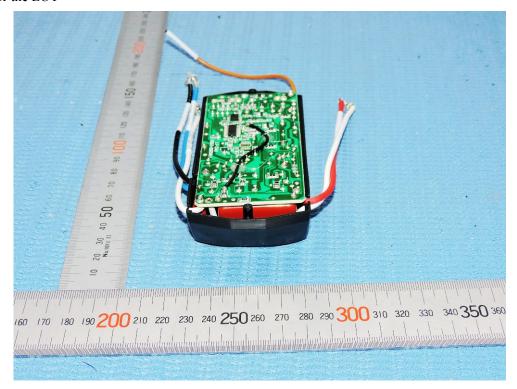
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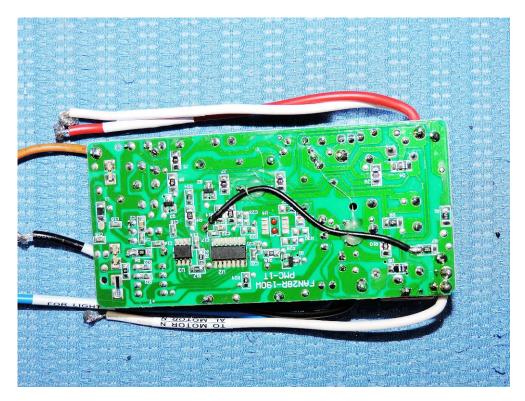
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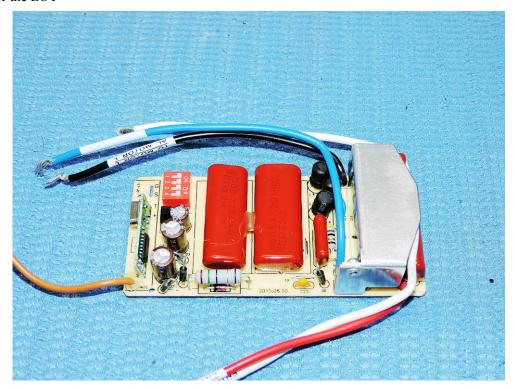
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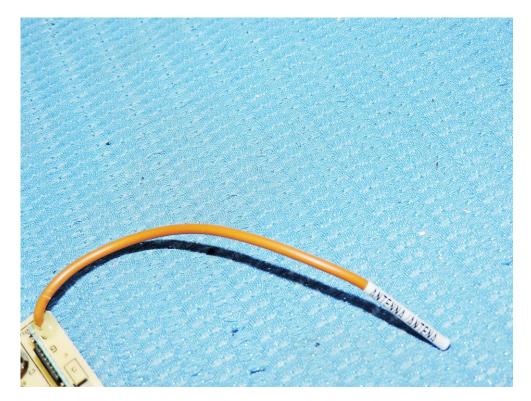
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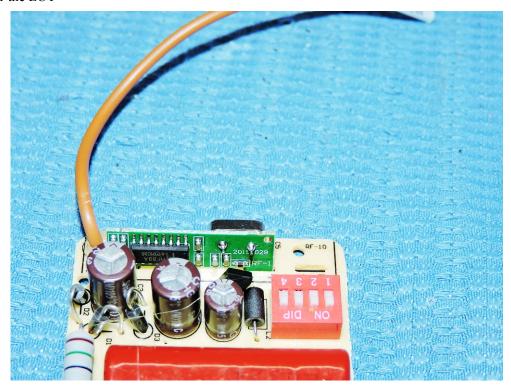
Page 30 of 31

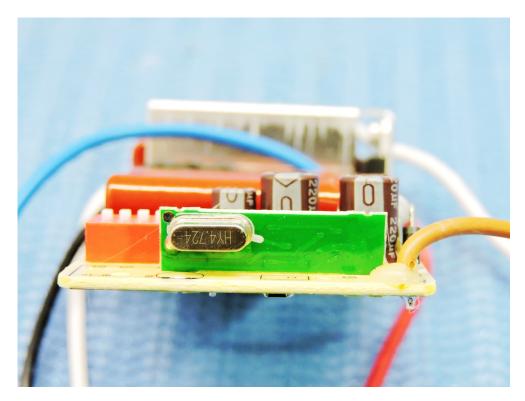
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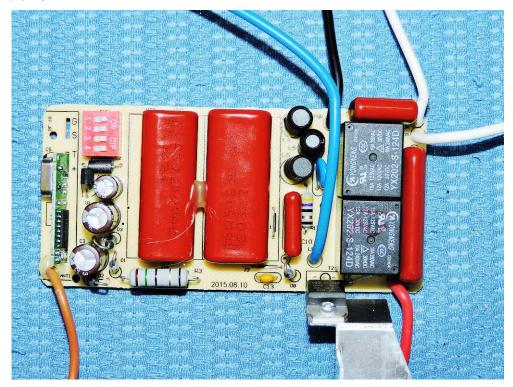
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Report No: FCC1706210 Page 31 of 31

Date: 2017-06-26



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-End of the report-