



File Reference No.: 2021-12-28

Applicant: King of Fans, Inc.

Product: 52" Tumbler 56047

Trademark: Home Decorators Collection

Model No.: 52-TUMB

Test Standards: FCC Part 15 Subpart B

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

lang lang

Terry Tang

Manager

Dated: December 28, 2021

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.

Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le Village, Nanshan District, Shenzhen, China

Tel (755) 83448688 Fax (755) 83442996 Email: <u>info@timeway-lab.com</u>

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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.: 744189

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.: 744189.

# **Industry Canada (IC)** — **Registration No.:5205A**

The EMC Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 5205A.

## **A2LA (Certification Number:5013.01)**

The EMC Laboratory has been accredited by the American Association for Laboratory Accreditation (A2LA). Certification Number:5013.01

Date: 2021-12-28



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# 1.0 General Details

## 1.1 Test Lab Details

Name: SHENZHEN TIMEWAY TESTING LABORATORIES.

Address: Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le

Village, Nanshan District, Shenzhen, China

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

## 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" Tumbler 56047

Manufacturer: Chienluen Industries (zhongshan) Ltd..

Address: Da Che Industrial Area, Nanlang Town, Zhongshan, Guangdong China 528451

Trademark: Home Decorators Collection

Model Number: 52-TUMB

Rating: Input: 120V, 60Hz, Fan W/O Light Kit: 0.55A, w/o light 65W; Output: w/light 1.05A, w/light 125W

Rx Frequency: 304MHz

### 1.4 Submitted Sample: 1 pc

### 1.5 Test Duration

Date of Receipt of Application: December 22, 2021 Date of Receipt of Test Item: December 22, 2021 Date of Test: December 22, 2021 ~ December 28, 2021

## 1.6 Test Uncertainty

Conducted Emissions Uncertainty = 3.6dB

Radiated Emissions below 1GHz Uncertainty =4.7dB Radiated Emissions above 1GHz Uncertainty =6.0dB

### 1.7 Test Engineer

Print Name: Leo Lau

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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	2021.06.18	1Year
Spectrum Analyzer	ESA-L1500A	US37451154	HP	2021.06.18	1Year
PULSE LIMITER	ESH3-Z2	100281	RS	2021.06.18	1Year
LISN	ESH3-Z5	100294	RS	2021.06.18	1Year
LISN	ESH3-Z5	100253	RS	2021.06.18	1Year
LISN	NNB42	00012	SCHAFFNER	2021.01.06	1Year

## 2.2 Radiated electromagnetic disturbance test

				Calibration	Calibration
Name	Model No	Serial No.	Manufacturer	Date	Cycle
EMI Test Receiver	ESPI 3	100379	RS	2021.06.18	1Year
Spectrum Analyzer	E4407B	MY50441392	HP/Agilent	2021.06.18	1Year
Amplifier	BBV9743	#218	HP/Agilent	2021.06.18	1Year
Bilog Antenna	VULB9163	9163/340	Schwarebeck	2021.07.02	3Year
Horn Antenna	BBHA 9120D	9120D-631	RS	2021.07.02	3Year
Amplifier	8449B	3008A00160	HP/Agilent	2021.06.18	1Year

## 2.3 Auxiliary Equipment

Device	Manufacturer	Model	Rating

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### 3.0 Technical Details

## 3.1 Investigations Requested

Perform Electromagnetic Interference [EMI] tests for FCC Requirement.

### 3.2 Test Standards

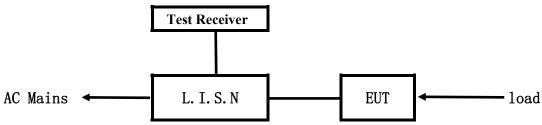
FCC Part 15 Subpart B

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### 4.0 Conducted Power line Test

### 4.1 Schematics of the test

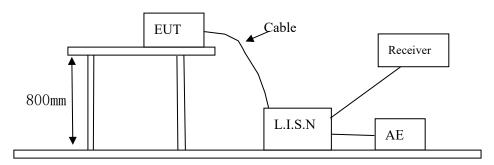


**EUT: Equipment Under Test** 

### 4.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2014. 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.

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



## 4.3 Power line conducted Emission Limit

Frequency	Class A Lin	nits dB(µV)	Class B Limits dB(µV)		
(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	
$5.00 \sim 30.00$	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.

Note: for this report, only receiving mode was tested.

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

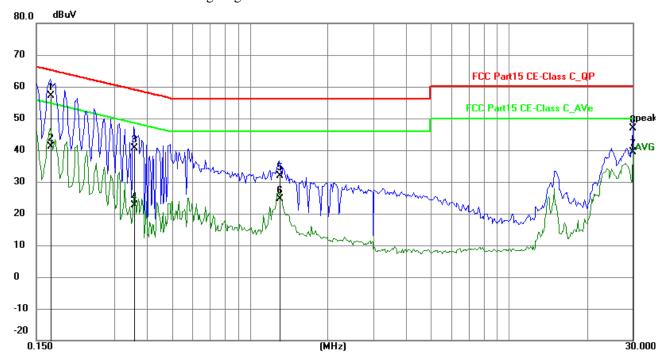
**EUT Operating Environment** 

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

**EUT set Condition: Receiving Mode** 

**Results: Pass** 

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1695	47.34	9.77	57.11	64.98	-7.87	QP	Р
2	0.1695	31.24	9.77	41.01	54.98	-13.97	AVG	Р
3	0.3567	30.88	9.76	40.64	58.80	-18.16	QP	Р
4	0.3567	12.87	9.76	22.63	48.80	-26.17	AVG	Р
5	1.2966	22.10	9.79	31.89	56.00	-24.11	QP	Р
6	1.2966	14.72	9.79	24.51	46.00	-21.49	AVG	Р
7	30.0000	17.76	21.60	39.36	60.00	-20.64	Q Q	Р
8	30.0000	25.25	21.60	46.85	50.00	-3.15	AVG	Р

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

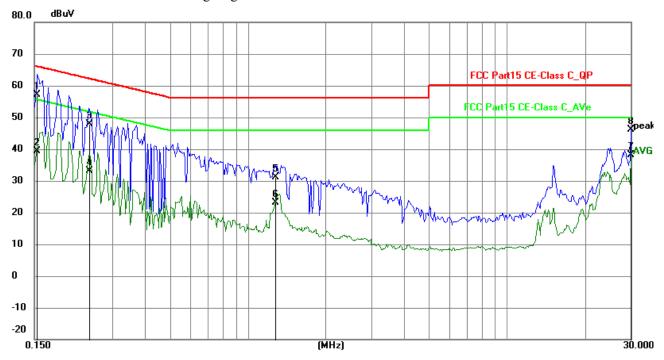
**EUT Operating Environment** 

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

**EUT set Condition: Receiving Mode** 

**Results: Pass** 

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1539	47.31	9.78	57.09	65.79	-8.70	QP	Р
2	0.1539	29.53	9.78	39.31	55.79	-16.48	AVG	Р
3	0.2436	38.18	9.75	47.93	61.97	-14.04	QP	Р
4	0.2436	23.29	9.75	33.04	51.97	-18.93	AVG	Р
5	1.2771	21.37	9.79	31.16	56.00	-24.84	QP	Р
6	1.2771	13.34	9.79	23.13	46.00	-22.87	AVG	Р
7	30.0000	16.63	21.60	38.23	60.00	-21.77	QP	Р
8	30.0000	24.52	21.60	46.12	50.00	-3.88	AVG	Р

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

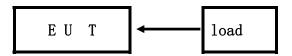
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### 5.0 Radiated Disturbance Test

### 5.1 Schematics of the test

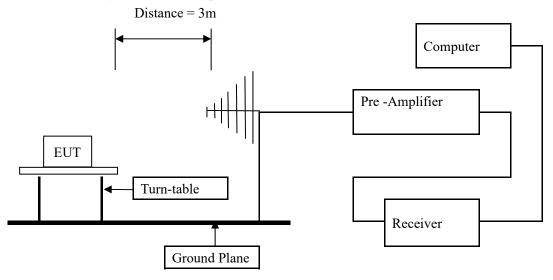


## 5.2 Test Method and test Procedure:

The EUT was tested according to ANSI C63.4 –2014; The frequency spectrum from 30MHz to 6GHz 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

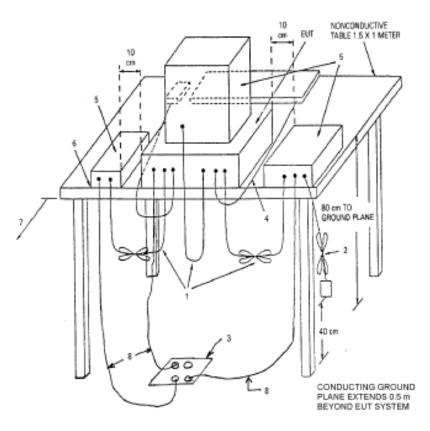
Actual Working Voltage and Frequency: 120V~, 60Hz

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



Date: 2021-12-28





#### 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 6GHz 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.

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

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

Project Number: CASE1 Test Time: 2021-12-23\_11.06.38

EUT Name: 52" Tumbler 56047 Test Engineer: LUCK

Manufacturer: Chienluen Industries (zhongshan) Ltd.. Test Standard: FCC PART 15B

Model: 52-TUMB Work Addition: Receiving

Temp.( $^{\circ}$ C): 25 Load: Hum.: 65% Remark:

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20-		M1		M2		M3	Harris and the state of the sta		Charles Strategy
30-								M4	L wil
10-									
50-									
50 -									

No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(0)	(cm)		
1	58.123	18.35	-12.68	40.0	-21.65	Peak	176.00	100	Horizontal	Pass
2	129.158	18.40	-16.83	43.5	-25.10	Peak	256.00	100	Horizontal	Pass
3	304.684	17.73	-10.96	46.0	-28.27	Peak	271.00	100	Horizontal	Pass
4	733.317	24.27	-3.61	46.0	-21.73	Peak	154.00	100	Horizontal	Pass

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0.0



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

Project Number: CASE1 Test Time: 2021-12-23 11.05.41

**EUT Name:** 52" Tumbler 56047 Test Engineer: **LUCK** 

FCC PART 15B Manufacturer: Chienluen Industries (zhongshan) Ltd.. Test Standard:

Model: 52-TUMB Work Addition: Receiving

Temp.(°C): 25 Load: 65% Remark: Hum.:

FCC\_FCC Part 15C Class B 30MHz-1GHz 60 50 М1 evel (dBuV/m) 10

No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	57.638	29.11	-12.53	40.0	-10.89	Peak	265.00	100	Vertical	Pass
2	88.913	24.55	-15.46	43.5	-18.95	Peak	53.00	100	Vertical	Pass
3	138.370	24.51	-17.27	43.5	-18.99	Peak	143.00	100	Vertical	Pass
4	205.284	20.23	-13.61	43.5	-23.27	Peak	125.00	100	Vertical	Pass
5	590.035	22.36	-5.09	46.0	-23.64	Peak	46.00	100	Vertical	Pass

Frequency (MHz)

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## C: Radiated Disturbance (1000MHz----6000MHz)

## **EUT Operating Environment**

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

**EUT set Condition: Receiving Mode** 

**Equipment Level: Class B** 

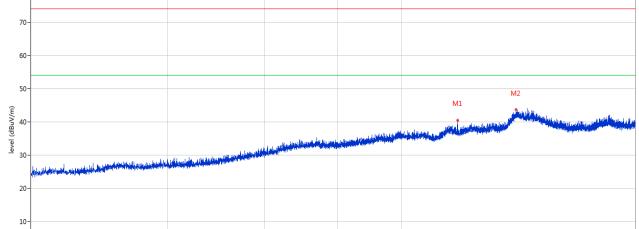
**Results: Pass** 

1000

Please refer to following diagram for individual

FCC Part 15B Class B 1GHz-6GHz
9080-

1500



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	3543.614	40.52	-0.87	74.0	-33.48	Peak	168.00	100	Horizontal	Pass
2	4216.946	43.66	1.64	74.0	-30.34	Peak	274.00	100	Horizontal	Pass

2483.5 Frequency (MHz)

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

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#### D: Radiated Disturbance (1000MHz----6000MHz)

**EUT Operating Environment** 

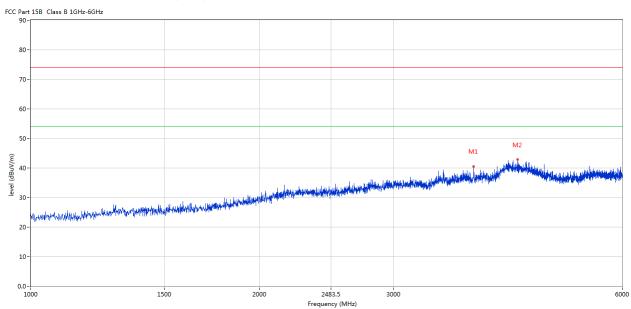
Atmospheric Pressure: 101 kPa Temperature:25°C Humidity: 75%RH

**EUT set Condition: Receiving Mode** 

**Equipment Level: Class B** 

**Results: Pass** 

Please refer to following diagram for individual



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	3826.793	40.51	0.45	74.0	-33.49	Peak	10.00	100	Vertical	Pass
2	4371.657	42.80	1.95	74.0	-31.20	Peak	7.00	100	Vertical	Pass

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### 6.0 FCC Label

## FCC ID: RGB-52-TUMBD

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.



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## 7.0 Photo of testing

## **Conducted Emissions**



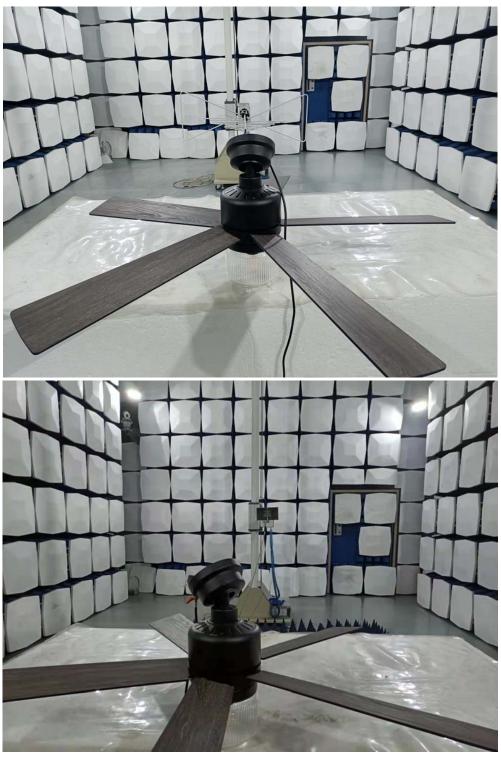
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### **Radiated Emissions**



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# Photographs – EUT





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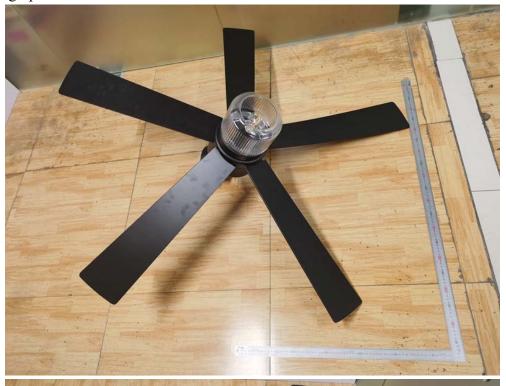
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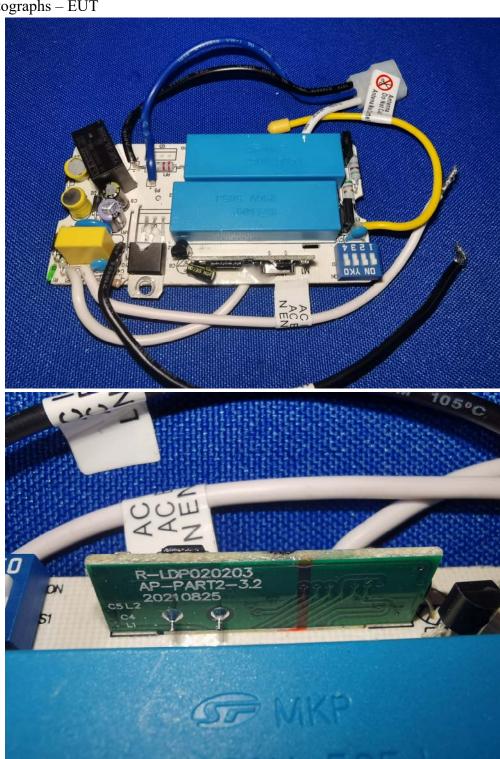
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**End of The Report**