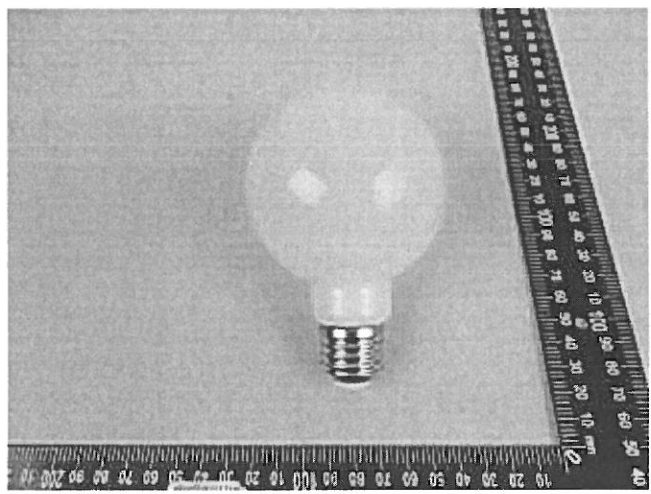
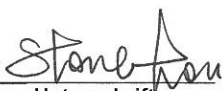
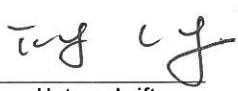


Prüfbericht - Nr.: <i>Test Report No.:</i>	14713850 002	Auftrags-Nr.: <i>Order No.:</i>	1160014093	Seite 1 von 15 Page 1 of 15
Kunden-Referenz-Nr.: <i>Client Reference No.:</i>	492690	Auftragsdatum: <i>Order date:</i>	02.02.2015	
Auftraggeber: <i>Client:</i>	Ningbo Hi-tech Zone Kafo Electronic Co., Ltd. Room B702, RongAn Building No.700 Tiantong South Road, YinZhou District, Ningbo 315100 P.R. China			
Prüfgegenstand: <i>Test item:</i>	LED Lamp			
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	KG80-WH-01			
Auftrags-Inhalt: <i>Order content:</i>	TUV Rheinland – EMC Service			
Prüfgrundlage: <i>Test specification:</i>	EN 55015:2013 EN 61547:2009 EN 61000-3-3:2013 EN 61000-3-2:2006+A1+A2			
Wareneingangsdatum: <i>Date of receipt:</i>	25.03.2015			
Prüfmuster-Nr.: <i>Test sample No.:</i>	N/A			
Prüfzeitraum: <i>Testing period:</i>	N/A			
Ort der Prüfung: <i>Place of testing:</i>	TÜV Rheinland / CCIC (Ningbo) Co., Ltd.			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland / CCIC (Ningbo) Co., Ltd.			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft/ tested by:		kontrolliert/ reviewed by:		
20.04.2015 Stone Hou/PE 		21.04.2015 Feng Liang/TC 		
Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>
Sonstiges/ Other:				
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>		Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>		
*Legende: 1= Sehr gut 2 = gut 3= befriedigend 4= ausreichend 5 = mangelhaft P(ass) =entspricht o.g. Prüfgrundlage(n) F(ail)= entspricht o.g. Prüfgrundlage(n) Legned: 1= very good 2 = good 3= satisfactory 4= sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail)= failed a.m. test specification(s) N/A = not applicable N/T = not tested				
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.</i>				

Test Summary

4.1.1 HARMONICS ON AC MAINS

Result:

Pass

4.1.2 VOLTAGE FLUCTUATIONS ON AC MAINS

Result:

Pass

4.1.3 MAINS TERMINAL CONTINUOUS DISTURBANCE VOLTAGE

Result:

Pass

4.1.4 RADIATED ELECTROMAGNETIC DISTURBANCE

Result:

Pass

4.2.1 RADIATED DISTURBANCE

Result:

Pass

5 IMMUNITY

Result:

Pass

Contents

1	TEST SITES	4
1.1	TEST FACILITIES	4
1.2	LIST OF TEST AND MEASUREMENT INSTRUMENTS.....	4
2	GENERAL PRODUCT INFORMATION	5
2.1	PRODUCT FUNCTION AND INTENDED USE	5
2.2	RATINGS AND SYSTEM DETAILS.....	5
2.3	INDEPENDENT OPERATION MODES	5
2.4	NOISE GENERATING AND NOISE SUPPRESSING PARTS	5
2.5	SUBMITTED DOCUMENTS	5
3	TEST SET-UP AND OPERATION MODES	6
3.1	PRINCIPLE OF CONFIGURATION SELECTION.....	6
3.2	PHYSICAL CONFIGURATION FOR TESTING	6
3.3	TEST OPERATION AND TEST SOFTWARE.....	6
3.4	SPECIAL ACCESSORIES AND AUXILIARY EQUIPMENT	6
3.5	COUNTERMEASURES TO ACHIEVE EMC COMPLIANCE.....	6
4	TEST RESULTS EMISSION.....	7
4.1	EMISSION IN THE FREQUENCY RANGE UP TO 30 MHz	7
4.1.1	Harmonics on AC Mains.....	7
4.1.2	Voltage Fluctuations on AC Mains.....	8
4.1.3	Mains Terminal Continuous Disturbance Voltage	9
4.1.4	Radiated Electromagnetic Disturbance	10
4.2	EMISSION IN THE FREQUENCY RANGE ABOVE 30 MHz	11
4.2.1	Radiated disturbance	11
5	TEST RESULTS I M M U N I T Y	12
6	PHOTOGRAPHS OF THE EUT.....	13
7	LIST OF TABLES.....	15
8	LIST OF PHOTOGRAPHS	15

1 Test Sites

1.1 Test Facilities

Laboratory: None.

1.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

None.

2 General Product Information

2.1 Product Function and Intended Use

The EUT (equipment under test) is an ordinary LED Lamp for Lighting and similar use. For the further information, refer to the user's manual.

2.2 Ratings and System Details

System input voltage : AC 220-240V, 50Hz
Rated Output : 6W
Protection Class : II

Other aspects:

1. In electrical characteristics, all models are based on the same circuit diagram with two circuit modules Resistance-capacitance step-down and bridge rectifier.
2. According to the reason listed above, all models are deemed to fulfill the requirements of the standards listed above without testing. For more detail information, refer to the related paragraph of this report.

Refer to the User's Manual for further information.

2.3 Independent Operation Modes

The basic operation modes are: "On" or "Off", without power regulation means.

Refer to the user manual for further information.

2.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram for further information.

2.5 Submitted Documents

Circuit Diagram, PCB layout, BOM List, Construction drawings, etc.

3 Test Set-up and Operation Modes

3.1 Principle of Configuration Selection

Emission: Refer to the related paragraph of this report.

Immunity: Refer to the related paragraph of this report.

3.2 Physical Configuration for Testing

Refer to the related paragraph of this report.

3.3 Test Operation and Test Software

Refer to the related paragraph of this report. No software was used.

3.4 Special Accessories and Auxiliary Equipment

None.

3.5 Countermeasures to achieve EMC Compliance

The tested sample contained no noise suppression capacitor and inductors as described in the Circuit diagram. No special measure is employed to achieve the requirement.

Prüfbericht - Nr.: 14713850 002

Test Report No.:

Seite 7 von 15

Page 7 of 15

4 Test Results EMISSION

4.1 Emission in the Frequency Range up to 30 MHz

4.1.1 Harmonics on AC Mains

Result:

Pass

Test procedure : EN 61000-3-2:2006+A1+A2

Harmonic order : 2 – 40th

Frequency range : 0 – 2kHz

According to the construction of the EUT, they will not produce harmonics that exceed the related limits because all the components/parts in the EUT worked at mains frequency and the load is resistance.

Therefore the EUT are deemed to fulfill the requirements of EN 61000-3-2:2006+A1+A2 without actual testing.

Prüfbericht - Nr.: 14713850 002

Test Report No.:

Seite 8 von 15

Page 8 of 15

4.1.2 Voltage Fluctuations on AC Mains

Result:

Pass

Test procedure : EN 61000-3-3:2013

Limit : EN 61000-3-3:2013, Clause 5

According to the construction and characteristics of the EUT (low power), it does not produce voltage fluctuation, which will exceed the limits specified by the standard above. Therefore, the test is not necessary.

Prüfbericht - Nr.: 14713850 002

Test Report No.:

Seite 9 von 15

Page 9 of 15

4.1.3 Mains Terminal Continuous Disturbance Voltage

Result:	Pass
----------------	-------------

Test procedure : EN 55015:2013 and CISPR 16-1 series standards

Frequency range : 9kHz -30MHz

According to the electrical characteristics of the EUT, it will not produce continuous disturbance voltage that might exceed the related limits because all the components/parts in the EUT worked at mains frequency and the load is resistance.

Prüfbericht - Nr.: 14713850 002

Test Report No.:

Seite 10 von 15

Page 10 of 15

4.1.4 Radiated Electromagnetic Disturbance

Result:	Pass
----------------	-------------

Port : Enclosure
Basic standard : EN 55015:2013
Frequency range : 9kHz -30MHz
Limit : EN 55015:2013, clause 4.4.1

According to the clause 5.11 of EN 55015:2013: “LED light sources and associated luminaires that do not contain any active electronic switching components are deemed to comply with the requirements of this standard without further testing.”

Due to the reason that the EUT contain no active electronic switching components. Therefore, they are deemed to fulfill the relevant requirements of this standard without further testing.

Prüfbericht - Nr.: 14713850 002

Test Report No.:

Seite 11 von 15

Page 11 of 15

4.2 Emission in the Frequency Range above 30 MHz

4.2.1 Radiated disturbance

Result:	Pass
----------------	-------------

Port	: Enclosure
Basic standard	: EN 55015:2013
Frequency range	: 30-300MHz
Limit	: EN 55015:2013, clause 4.4.2

According to the clause 5.11 of EN 55015:2013: “LED light sources and associated luminaires that do not contain any active electronic switching components are deemed to comply with the requirements of this standard without further testing.”

Due to the reason that the EUT contain no active electronic switching components. Therefore, they are deemed to fulfill the relevant requirements of this standard without further testing.

5 Test Results I M M U N I T Y

According to EN 61547:2009, clause 6.2,

“6.2 Non-electronic lighting equipment

Lighting equipment, with the exception of emergency lighting luminaires, in which the source is mains frequency or battery operated and which does not contain any active electronic component, is deemed to fulfill the immunity requirements without testing.”

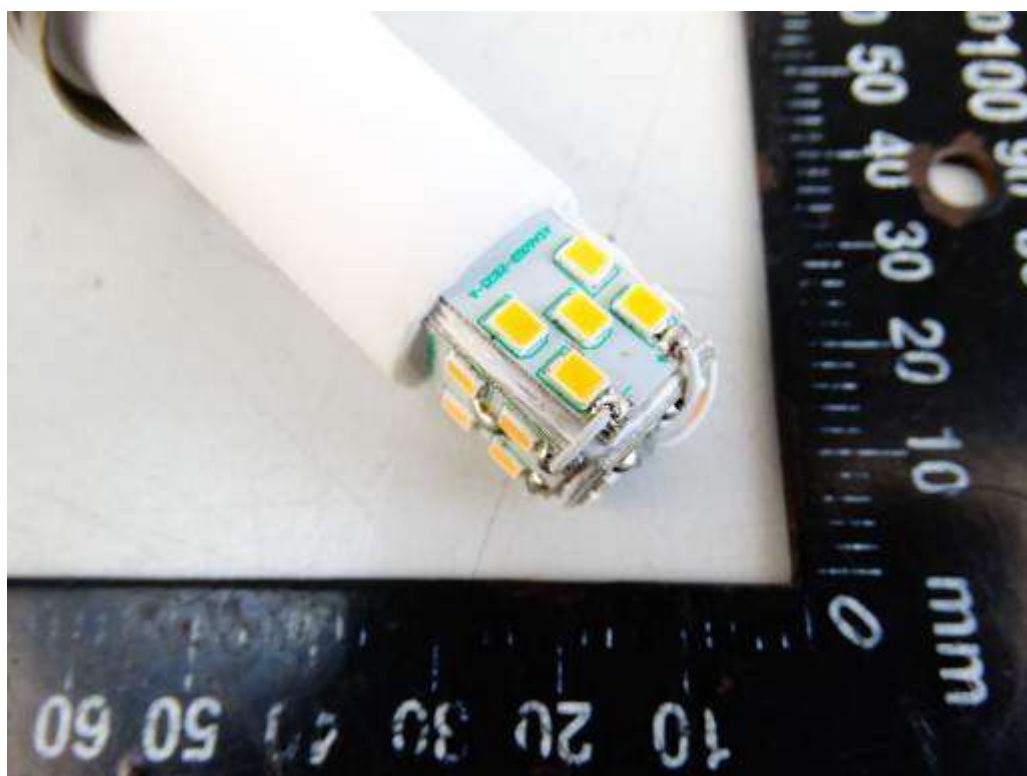
The EUT works on main frequency and does not contain any active electronic component.
Therefore, the EUT is deemed to fulfill the relevant immunity requirements without testing.

Prüfbericht - Nr.: 14713850 002
Test Report No.:

Seite 13 von 15
Page 13 of 15

6 Photographs of the EUT

Photograph 1: EUT

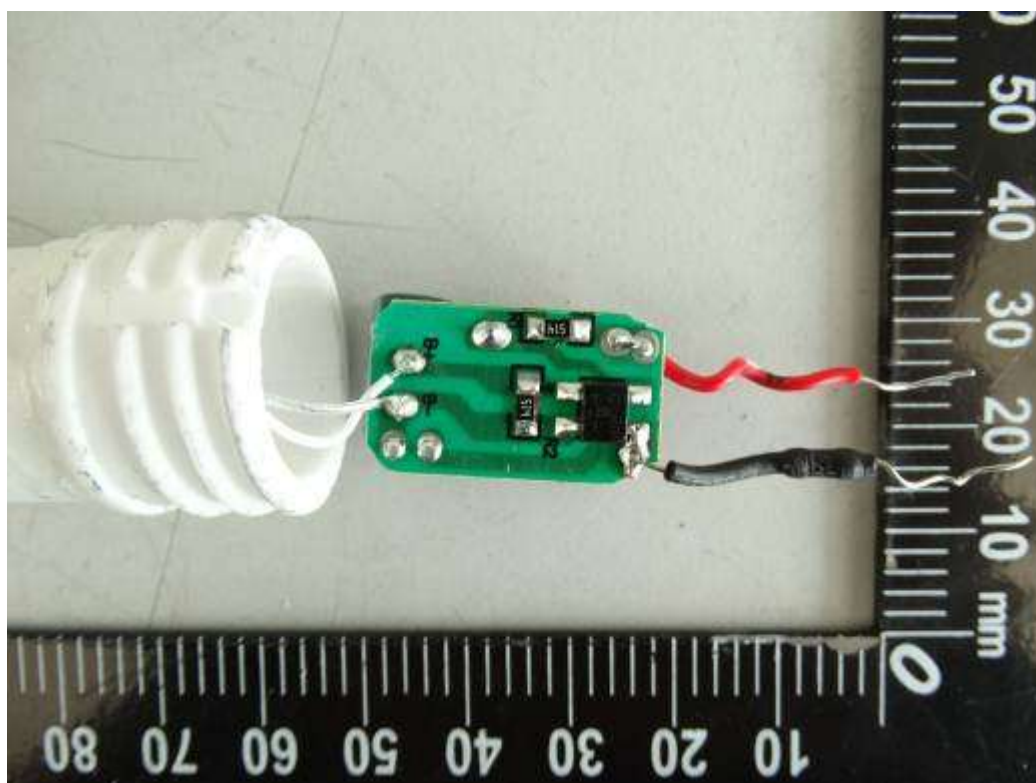
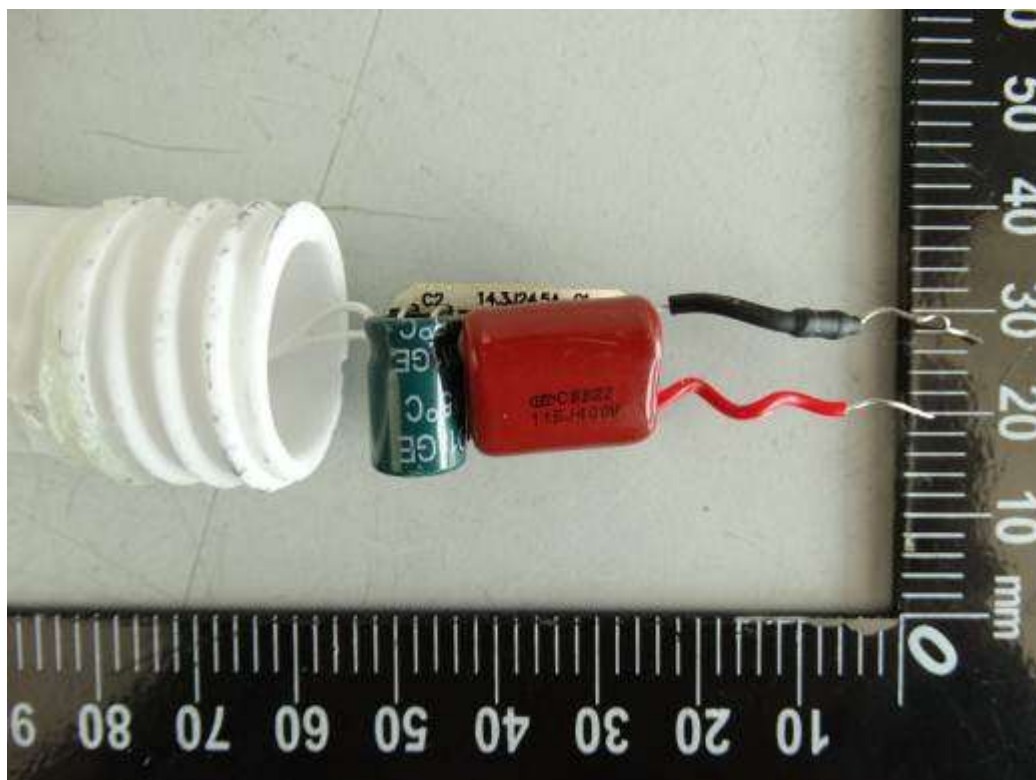


Prüfbericht - Nr.: 14713850 002

Test Report No.:

Seite 14 von 15

Page 14 of 15



7 List of Tables

Table 1: List of Test and Measurement Equipment	4
---	---

8 List of Photographs

Photograph 1: EUT	13
-------------------------	----