



**CENTRE OF TESTING SERVICE  
INTERNATIONAL**

**OPERATE ACCORDING TO ISO/IEC 17025**

# **TEST REPORT**

**RoHS 2002/95/EC**

**Test Report Number : CGZ3090429-00853-C**



**CTS (Guangzhou) Testing Service Technology Co., Ltd.**

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### 1 General Information

#### 1.1 Application Details

Name : KINGLED LIGHTING (H.K) CO., LIMITED  
Address : #70, Dongguan Zhuang Rd, Tianhe District, Guangzhou, China  
Contact : Wilson Xu  
Telephone : +86-20-37285900  
Fax : +86-20-37285385  
Mobile telephone : /  
Email : xudenong@kingled.com.cn

#### 1.2 Details of wanted approval holder

Name : KINGLED LIGHTING (H.K) CO., LIMITED  
Address : #70, Dongguan Zhuang Rd, Tianhe District, Guangzhou, China  
Contact : Wilson Xu  
Telephone : +86-20-37285900  
Fax : +86-20-37285385  
Mobile telephone : /  
Email : xudenong@kingled.com.cn

#### 1.3 Manufacturer & Buyer

Manufacturer name : KINGLED LIGHTING (H.K) CO., LIMITED  
Address : #70, Dongguan Zhuang Rd, Tianhe District, Guangzhou, China  
Contact : Wilson Xu  
Telephone : +86-20-37285900  
Fax : +86-20-37285385  
Mobile telephone : /  
Email : xudenong@kingled.com.cn  
Buyer name : /

#### 1.4 Description of the Test Item

Sample name : LED Moduk series  
Model No. : FMX-abc-def-g  
Brand name : /  
Condition of sample(s) : EFFECTIVE

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### 1.5 Directive

#### **2002/95/EC**

Restriction of the use of certain hazardous substances in electrical and electronic equipment  
27 January 2003

*in connection with:*

#### **2002/96/EC**

*Waste electrical and electronic equipment*  
27 January 2003

#### **2005/618/EC**

Establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment  
18 August 2005

## 2 Test results

### 2.1 Description of the Sample

Sample name : LED Moduk series  
Model No. : FMX-abc-def-g  
Brand name : /

### 2.2 Sample Receiving Date

Apr. 29, 2009

### 2.3 Testing Period

Apr. 29, 2009 to Jul. 10, 2009

### 2.4 Test Method

1. X-Ray Fluorescence Spectrometry method in reference to IEC 62321.
2. Chemical test method

Test Item(s)	Test Method	Test Instrument	MDL
Lead (Pb)	Refer to US EPA3050B	ICP-AES	2mg/kg
Cadmium (Cd)	Refer to EN1122:2001B	ICP-AES	2mg/kg
Mercury (Hg)	Refer to US EPA3052	ICP-AES	2mg/kg
Chromium (Cr VI)	Refer to US EPA3060A & US EPA 7196A	UV-Vis	2mg/kg
PBBs	Refer to US EPA3540C	GC-MS	5mg/kg
PBDEs	Refer to US EPA3540C	GC-MS	5mg/kg

Remark: MDL= Method Detect Limit

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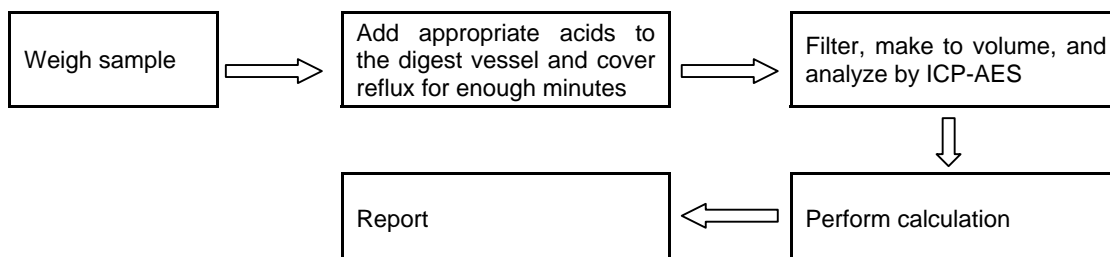


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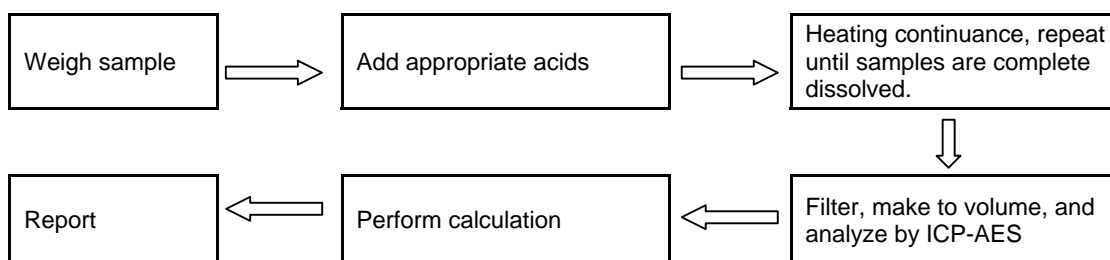
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### 2.5 Chemical Test Method Flow Chart

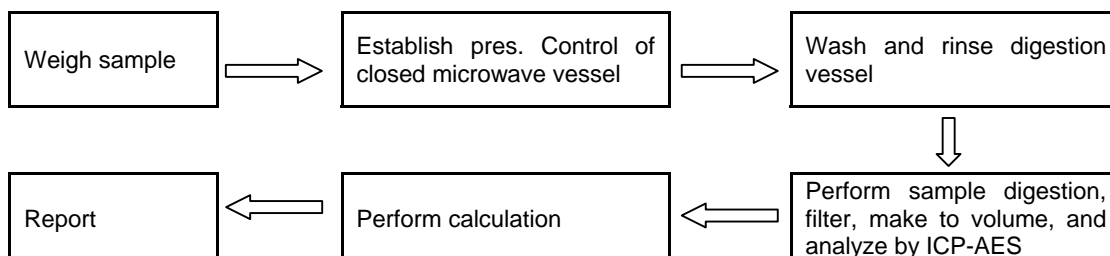
#### 1. EPA3050B:



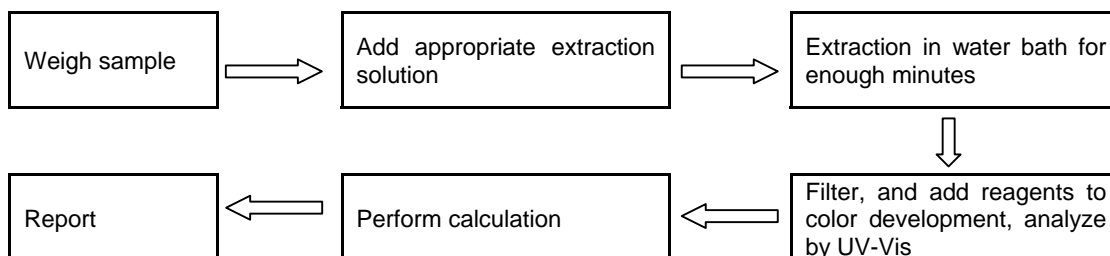
#### 2. EN1122 2001 method B:



#### 3. EPA3052:



#### 4. EPA3060A & EPA 7196A



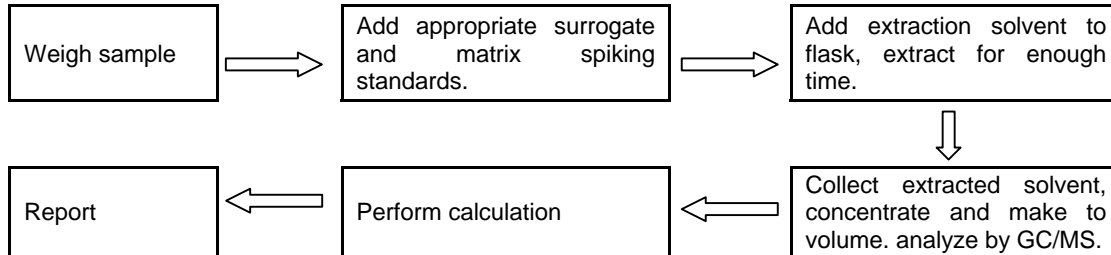
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### 5. EPA3540C:



## 2.6 Test Results

### 2.6.1 Test results of all parts by EDXRF and chemical confirmation

No.	Sample Description	Results					Chemical Confirmation Result (Unit=mg/kg)
		Pb	Cd	Hg	Cr	Br	
1	Red plastic jacket	P	P	P	P	P	/
2	Black plastic jacket	P	P	P	P	P	/
3	Silvery metal wire	P	P	P	P	/	/
4	White plastic crust	P	P	P	P	X	PBBs: N.D. PBDEs: N.D.
5	Brown PCB	P	P	P	P	X	PBBs: N.D. PBDEs: N.D.
6*	Chip resistor	F	P	P	P	P	/
7	Soldering tin	P	P	P	P	/	/
8	Body of LED	P	P	P	P	P	/
9	Silvery metal pin	P	P	P	P	/	/

Note : P = Below Limit (Pass)  
 F = Over Limit (Fail)  
 X = Inconclusive  
 N.D. = not detected (less than MDL)  
 1mg/kg=1ppm=0.0001%  
 \* According to the declaration from client, the source of lead in the sample could be from the ceramic parts. Lead in electronic ceramic parts is exempted from the requirement of RoHS Directive (2002/95/EC).

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Remarks:

- (1) Results are obtained by EDXRF for primary screening, and further chemical testing is recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321.

Element	Polymer Materials	Metallic Materials	Electronic Materials
Pb	$P \leq 500 < X < 1300 \leq F$	$P \leq 500 < X < 1300 \leq F$	$P \leq 500 < X < 1300 \leq F$
Cd	$P \leq 50 < X < 130 \leq F$	$P \leq 50 < X < 130 \leq F$	$X < 130 \leq F$
Hg	$P \leq 500 < X < 1300 \leq F$	$P \leq 500 < X < 1300 \leq F$	$P \leq 500 < X < 1300 \leq F$
Cr	$P \leq 700 < X$	$P \leq 700 < X$	$P \leq 500 < X$
Br	$P \leq 250 < X$	/	$P \leq 250 < X$

- (2) The XRF screening test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.  
(3) The test results only apply to the materials requested by applicant.

Written by: *Mili*

Inspected by *Jane*

Approved by: *hyt*

\*\*\*End of Report\*\*\*



The measurement results only apply to the submitted samples.  
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### 3 Sample Reference Photo



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