

• APPLICANT : SMART-GROUP (DONGGUAN SHIMA ELECTRONICS CO., LTD)  
No.135, Huancheng Road, Mawu Village, Qiaoli Management Community, Changping Town, Dongguan city, Guangdong Province, China.

REPORT ON THE SUBMITTED SAMPLE SAID TO BE

SAMPLE NAME : Relay Controllers  
TYPE /MODEL : SB-RLY8c16A-DN, SB-RLY4c20A-DN, SB-RLY6c20A-DN, SB-RLY4c16A-DN, SB-RLY6c16A-DN, SB-RLY12c10A-DN, SB-3R-UN, SB-PS9A-WL  
MANUFACTURER : SMART-GROUP (DONGGUAN SHIMA ELECTRONICS CO., LTD)  
TEST REPORT NUMBER : 201205831R  
SAMPLE RECEIVED DATE : May 29, 2012  
TESTING PERIOD : May 29, 2012 to Jun. 07, 2012

\*\*\*\*\*

TEST REQUESTED: TO COMBINE THE TEST RESULT FOR THE SUBMITTED SAMPLE

\*\*\*\*\*

CONCLUSION:

<u>TESTED SAMPES</u>	<u>STANDARD</u>	<u>RESULT</u>
SUBMITTED SAMPLE	EUROPEAN DIRECTIVE 2011/65/EU ON THE RESTRICTION OF THE USE OF CERTAIN HAZARDOUS SUBSTANCES (RoHS Directive)	PASS

\*\*\*\*\*FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S)\*\*\*\*\*

Signed for and on behalf of ANBOTEK COMPLIANCE LABORATORY LIMITED

Written by Andy Shen

Inspected by Terry Tian

Approved Jeff Zhu  
Jeff Zhu / Manager

**Testing method:**

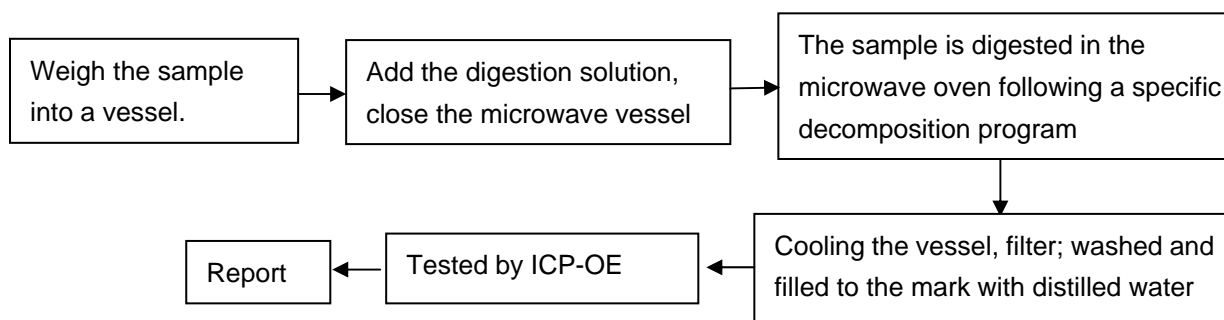
Testing Item	Measuring method	Instrument	Report Limit
Cadmium (Cd)	EN 1122B	ICP-AES	2 mg/kg
Lead (Pb)	EPA 3050B	ICP-AES	2 mg/kg
Mercury (Hg)	EPA 3052	ICP-AES	2 mg/kg
Chromium(VI) [Cr(VI)]	EPA 3060A	UV-VIS	2 mg/kg
Polybrominated Biphenyl (PBB)	83/264/EEC	GC/MS	5 mg/kg
Polybrominated Diphenylether (PBDE)	83/264/EEC	GC/MS	5 mg/kg

**Method detection Limits:**

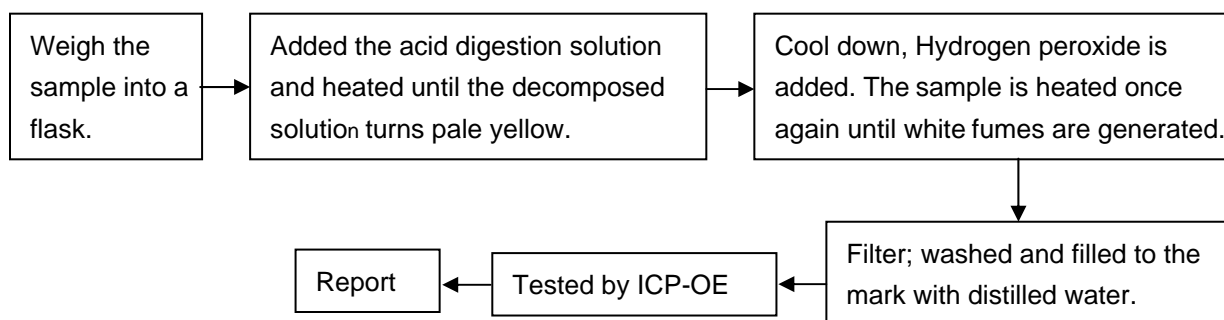
Test Item	Unit	Acceptable Limit
Cadmium (Cd)	ppm	100
Lead (Pb)	ppm	1000
Mercury (Hg)	ppm	1000
Chromium(VI) [Cr(VI)]	ppm	1000
Polybrominated Biphenyl (PBB)	ppm	1000
Polybrominated Diphenylether (PBDE)	ppm	1000

**Test flow:**

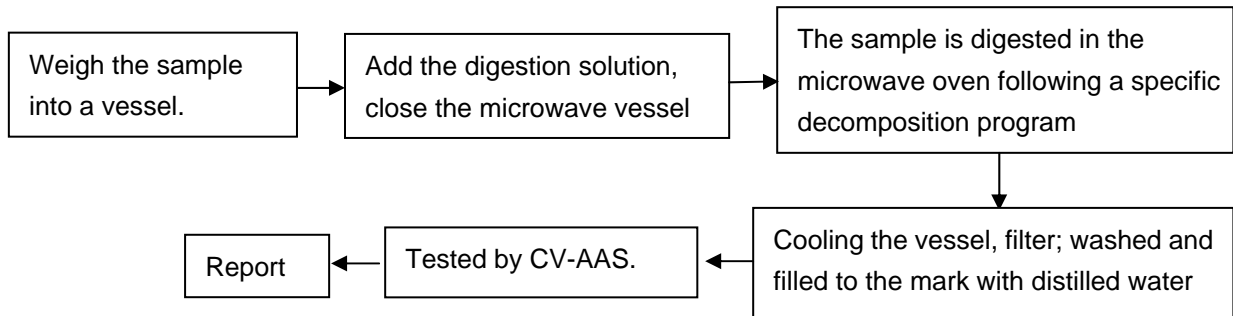
1. To Determine lead Content:



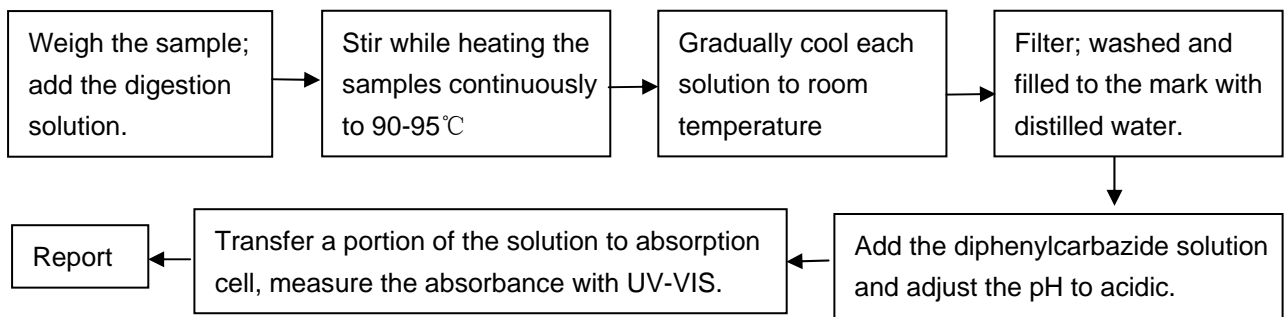
2. To Determine Cadmium Content:



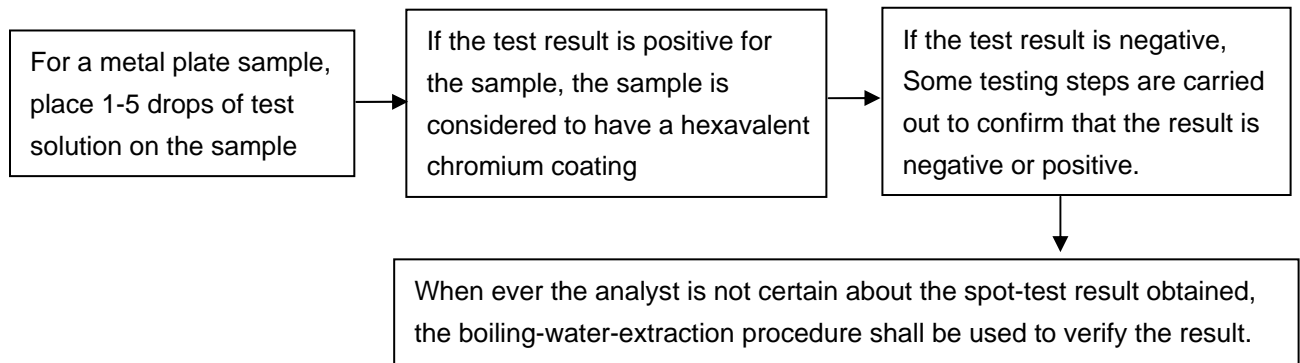
3. To Determine Mercury Content:



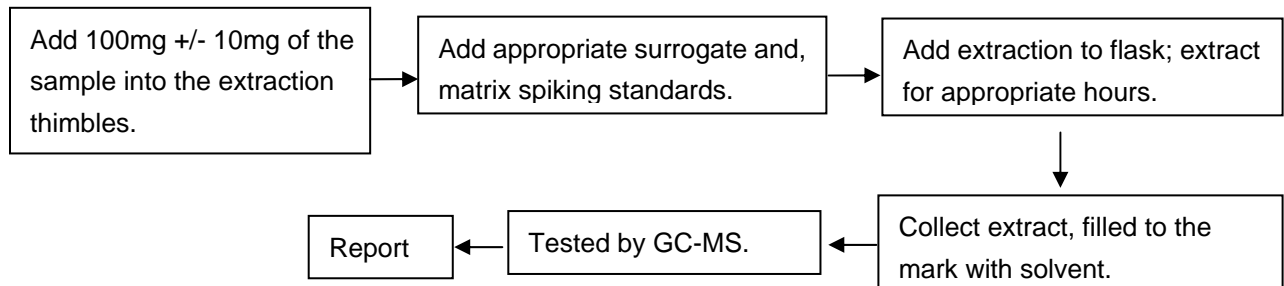
4. To Determine Hexavalent Chromium Content:



5. To Determine Hexavalent Chromium Content in metals:  
spot-test:



6. To Determine PBBs / PBDEs Content:



**Test Results**

Item	Unit	MDL	<u>No.</u> <u>1</u>	<u>No.</u> <u>2</u>	<u>No.</u> <u>3-1</u>	<u>No.</u> <u>3-2</u>	<u>No.</u> <u>4-1</u>
Lead Content (Pb)	ppm	2	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	ppm	2	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury Content(Hg)	ppm	2	N.D.	N.D.	N.D.	N.D.	N.D.
Hexavalent Chromium Content [Cr(VI)]	ppm	2	N.D.	Negative	N.D.	Negative	N.D.
Flame Retardants							
Polybrominated biphenyls (PBBs)	ppm	5	N.D.	N.A.	N.D.	N.A.	N.D.
Polybrominated Diphenylethers(PBDEs)	ppm	5	N.D.	N.A.	N.D.	N.A.	N.D.

Item	Unit	MDL	<u>No.</u> <u>4-2</u>	<u>No.</u> <u>5-1</u>	<u>No.</u> <u>5-2</u>	<u>No.</u> <u>6-1</u>	<u>No.</u> <u>6-2</u>
Lead Content (Pb)	ppm	2	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	ppm	2	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury Content(Hg)	ppm	2	N.D.	N.D.	N.D.	N.D.	N.D.
Hexavalent Chromium Content [Cr(VI)]	ppm	2	Negative	N.D.	Negative	N.D.	Negative
Flame Retardants							
Polybrominated biphenyls (PBBs)	ppm	5	N.A.	N.D.	N.A.	N.D.	N.A.
Polybrominated Diphenylethers(PBDEs)	ppm	5	N.A.	N.D.	N.A.	N.D.	N.A.

Item	Unit	MDL	<u>No.</u> <u>7-1</u>	<u>No.</u> <u>7-2</u>	<u>No.</u> <u>7-3</u>	<u>No.</u> <u>7-4</u>	<u>No.</u> <u>7-5</u>
Lead Content (Pb)	ppm	2	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	ppm	2	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury Content(Hg)	ppm	2	N.D.	N.D.	N.D.	N.D.	N.D.
Hexavalent Chromium Content [Cr(VI)]	ppm	2	Negative	Negative	Negative	N.D.	N.D.
Flame Retardants							
Polybrominated biphenyls (PBBs)	ppm	5	N.A.	N.A.	N.A.	N.D.	N.D.
Polybrominated Diphenylethers(PBDEs)	ppm	5	N.A.	N.A.	N.A.	N.D.	N.D.

Item	Unit	MDL	<u>No.</u> 7-6	<u>No.</u> 7-7	<u>No.</u> 7-8	<u>No.</u> 8-1	<u>No.</u> 8-2
Lead Content (Pb)	ppm	2	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	ppm	2	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury Content(Hg)	ppm	2	N.D.	N.D.	N.D.	N.D.	N.D.
Hexavalent Chromium Content [Cr(VI)]	ppm	2	N.D.	N.D.	N.D.	N.D.	Negative
Flame Retardants							
Polybrominated biphenyls (PBBs)	ppm	5	N.D.	N.D.	N.D.	N.D.	N.A.
Polybrominated Diphenylethers(PBDEs)	ppm	5	N.D.	N.D.	N.D.	N.D.	N.A.

Item	Unit	MDL	<u>No.</u> 9-1	<u>No.</u> 9-2	<u>No.</u> 9-3	<u>No.</u> 10-1	<u>No.</u> 10-2
Lead Content (Pb)	ppm	2	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	ppm	2	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury Content(Hg)	ppm	2	N.D.	N.D.	N.D.	N.D.	N.D.
Hexavalent Chromium Content [Cr(VI)]	ppm	2	N.D.	N.D.	Negative	N.D.	Negative
Flame Retardants							
Polybrominated biphenyls (PBBs)	ppm	5	N.D.	N.D.	N.A.	N.D.	N.A.
Polybrominated Diphenylethers(PBDEs)	ppm	5	N.D.	N.D.	N.A.	N.D.	N.A.

Item	Unit	MDL	<u>No.</u> 10-3	<u>No.</u> 11-1	<u>No.</u> 11-2	<u>No.</u> 11-3	<u>No.</u> 11-4
Lead Content (Pb)	ppm	2	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	ppm	2	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury Content(Hg)	ppm	2	N.D.	N.D.	N.D.	N.D.	N.D.
Hexavalent Chromium Content [Cr(VI)]	ppm	2	Negative	Negative	N.D.	Negative	N.D.
Flame Retardants							
Polybrominated biphenyls (PBBs)	ppm	5	N.A.	N.A.	N.D.	N.A.	N.D.
Polybrominated Diphenylethers(PBDEs)	ppm	5	N.A.	N.A.	N.D.	N.A.	N.D.

Item	Unit	MDL	<u>No.</u> <u>11-5</u>	<u>No.</u> <u>11-6</u>	<u>No.</u> <u>12-1</u>	<u>No.</u> <u>12-2</u>	<u>No.</u> <u>12-3</u>
Lead Content (Pb)	ppm	2	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	ppm	2	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury Content(Hg)	ppm	2	N.D.	N.D.	N.D.	N.D.	N.D.
Hexavalent Chromium Content [Cr(VI)]	ppm	2	Negative	N.D.	N.D.	Negative	Negative
Flame Retardants							
Polybrominated biphenyls (PBBs)	ppm	5	N.A.	N.D.	N.D.	N.A.	N.A.
Polybrominated Diphenylethers(PBDEs)	ppm	5	N.A.	N.D.	N.D.	N.A.	N.A.

Item	Unit	MDL	<u>No.</u> <u>13-1</u>	<u>No.</u> <u>13-2</u>	<u>No.</u> <u>14-1</u>	<u>No.</u> <u>14-2</u>	<u>No.</u> <u>15</u>
Lead Content (Pb)	ppm	2	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	ppm	2	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury Content(Hg)	ppm	2	N.D.	N.D.	N.D.	N.D.	N.D.
Hexavalent Chromium Content [Cr(VI)]	ppm	2	Negative	Negative	N.D.	Negative	Negative
Flame Retardants							
Polybrominated biphenyls (PBBs)	ppm	5	N.A.	N.A.	N.D.	N.A.	N.A.
Polybrominated Diphenylethers(PBDEs)	ppm	5	N.A.	N.A.	N.D.	N.A.	N.A.

Item	Unit	MDL	<u>No.</u> <u>16</u>	<u>No.</u> <u>17-1</u>	<u>No.</u> <u>17-2</u>	<u>No.</u> <u>18</u>	<u>No.</u> <u>19</u>
Lead Content (Pb)	ppm	2	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	ppm	2	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury Content(Hg)	ppm	2	N.D.	N.D.	N.D.	N.D.	N.D.
Hexavalent Chromium Content [Cr(VI)]	ppm	2	Negative	N.D.	Negative	Negative	N.D.
Flame Retardants							
Polybrominated biphenyls (PBBs)	ppm	5	N.A.	N.D.	N.A.	N.A.	N.D.
Polybrominated Diphenylethers(PBDEs)	ppm	5	N.A.	N.D.	N.A.	N.A.	N.D.

Item	Unit	MDL	No. <u>20</u>				
Lead Content (Pb)	ppm	2	N.D.				
Cadmium (Cd)	ppm	2	N.D.				
Mercury Content(Hg)	ppm	2	N.D.				
Hexavalent Chromium Content [Cr(VI)]	ppm	2	N.D.				
Flame Retardants							
Polybrominated biphenyls (PBBs)	ppm	5	N.D.				
Polybrominated Diphenylethers(PBDEs)	ppm	5	N.D.				

- NOTE: (1) ppm=mg/kg.  
 (2) N.D.= NOT DETECTED (<MDL)  
 (3) N.A.= NOT APPLICABLE  
 (4) Negative = Absence of CrVI coating

DISCLAIM: Anbotek take no responsibility for any mistakes caused by inaccurate and /or invalid information submitted by the applicant.

**Sample Appearance Description:**

<b>Item No.</b>	<b>Part Name</b>	<b>Description</b>
1	PCB	Green PCB (mixed)
2	TIN	Silvery metal
3	IC	---
3-1	BODY	Black body
3-2	PIN	Silvery metal pin
4	RESISTOR	---
4-1	BODY	Grey body w/ multicolor printing (mixed)
4-2	PIN	Silvery metal pin
5	CHIP RESISTOR	---
5-1	BODY	Black body w/ white printing
5-2	PIN	Silvery metal pin
6	CHIP CAPACITOR	---
6-1	BODY	Yellow body
6-2	PIN	Silvery metal pin
7	ELECTROLYTICAL CAPACITOR	---
7-1	FOIL	Black metal
7-2	PIN	Silvery metal pin
7-3	ALUMINIUM	Silvery metal shell
7-4	LIQUID	Flaxen liquid
7-5	PAPER	Black paper
7-6	RUBBER	Black rubber
7-7	HEAT SHRINKABLE TUBINGS	Black plastic tube
7-8	SHELL	Black plastic
8	DIODE	---
8-1	BODY	Black solid w/ grey printing (mixed)
8-2	PIN	Silvery metal pin
9	INDUCTOR	---
9-1	COVER	Black rubber cover
9-2	CORE	Dk-grey core
9-3	PIN	Silvery metal pin
10	TERMINAL	---
10-1	BODY	Green plastic body
10-2	WIRE	Silvery metal wire



<b>Item No.</b>	<b>Part Name</b>	<b>Description</b>
10-3	PIN	Silvery metal pin
11	TRANSFORMER	---
11-1	METAL WIRE	Silvery color metal
11-2	CORE	Black core
11-3	TIN BAR	Silvery metal
11-4	INSULATION PAINT	Transparent liquid
11-5	INSULATION WIRE	Yellow plastic jacket & golden colored metal wire
11-6	SKELETON	Black skeleton
12	RELAY	---
12-1	BODY	Black body
12-2	METAL	Silvery metal
12-3	PIN	Silvery metal pin
13	CRYSTAL	---
13-1	BODY	Silvery metal body
13-2	PIN	Silvery metal pin
14	CAPACITOR	---
14-1	BODY	Blue body w/ black printing
14-2	PIN	Silvery metal pin
15	NEEDLE	Silvery bend metal
16	COPPER MAST	Copper-color meta
17	SWITCH	---
17-1	BODY	Black body
17-2	PIN	Silvery metal
18	SCREW	Silvery metal
19	CRUST	Brown plastic
20	LABEL	White label

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

**APPENDIX A**

**Photograph of Sample**

