



RoHS TEST REPORT

For

LED SMART BULB

Model No.: VT-5114, VT-5154

Applicant : V-TAC EXPORTS LIMITED

ROOM NO.301, KAM ON BUILDING 176A QUEENS ROAD CENTRAL,
CENTRAL, HONGKONG

Manufacturer : V-TAC EXPORTS LIMITED

ROOM NO.301, KAM ON BUILDING 176A QUEENS ROAD CENTRAL,
CENTRAL, HONGKONG

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Report Number : GST.190821.A102R

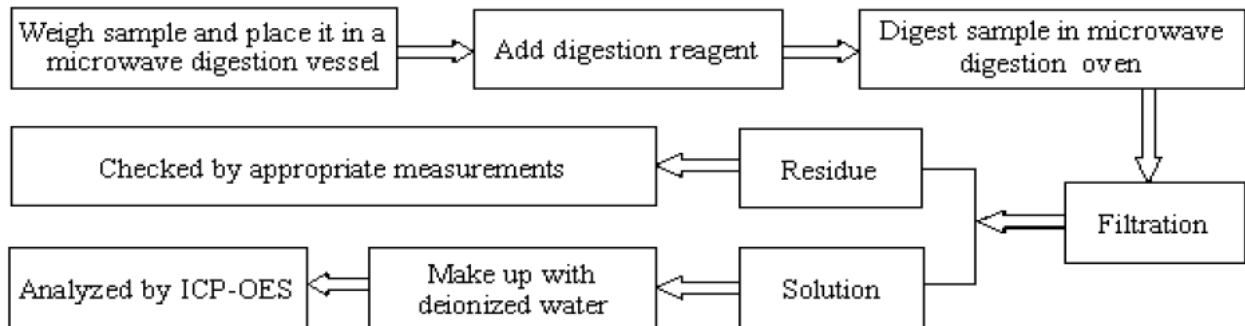
Issued Date : November 14, 2019

Date of Report : November 14, 2019

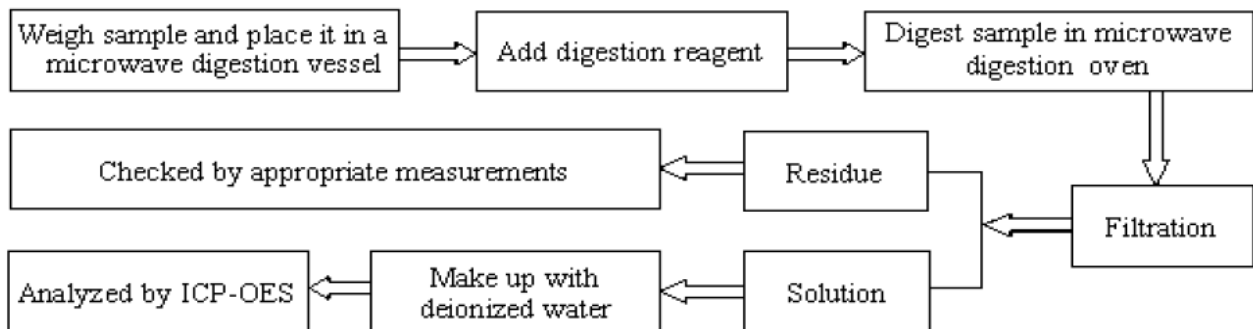
Note:

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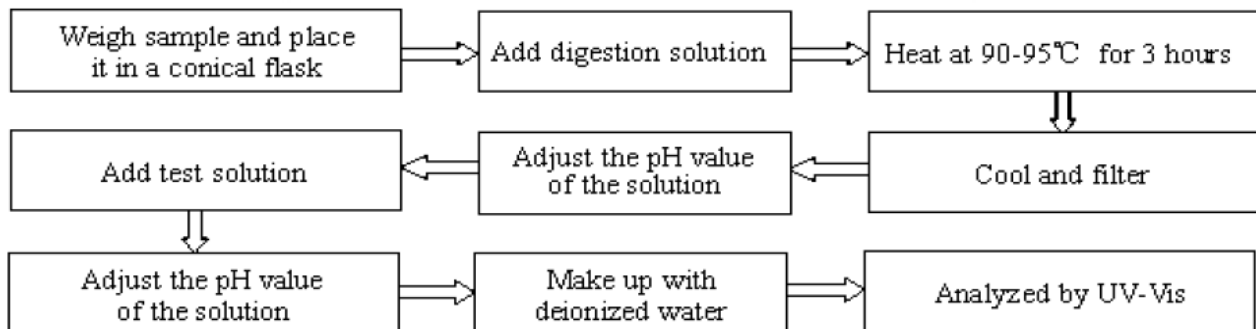
1. Lead(Pb), Cadmium(Cd)



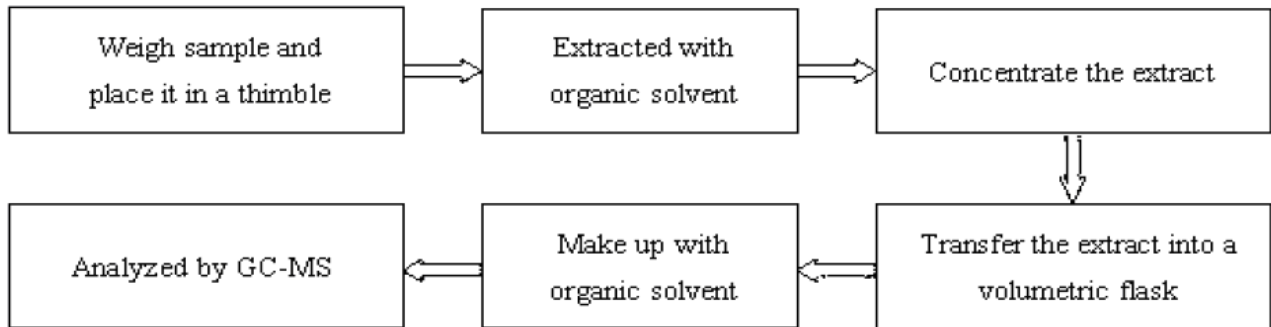
2. Mercury(Hg)



3. Hexavalent Chromium (Cr(VI))



**4. Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers(PBDEs) ,
HBCDD, DBP, DEHP, BBP**



Method Detection Limit (MDL) in wet chemical test

Test Items	Pb	Cd	Hg	PBBs & PBDEs
Unit	mg/kg	mg/kg	mg/kg	mg/kg
MDL	2	2	2	2

Result	:	Pass
Conclusion	:	An independent evaluation on the above-mentioned product(s) has been conducted pursuant to 2011/65/EU and (EU)2015/863 of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment, and concluded that the equipment under evaluation met the legislative requirements of this directive.

Reviewed by

 Nico Xie
 Manager
 November 14, 2019

Test Data Summary

SAMPLE NO.	COMPONENTS	Item	Results of EDXRF (P/F/D)	Results of testing(mg/kg)	Chemical testing limit (mg/kg)	Conclusion (P/F)
1	Diffuser	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	D	N.D.	<1000	P
		PBDEs	D	N.D.	<1000	P
		HBCDD	D	N.D.	<1000	P
		DEHP	D	N.D.	<1000	P
		DBP	D	N.D.	<1000	P
		BBP	D	N.D.	<1000	P
2	Plastic enclosure	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	D	N.D.	<1000	P
		PBDEs	D	N.D.	<1000	P
		HBCDD	D	N.D.	<1000	P
		DEHP	D	N.D.	<1000	P
		DBP	D	N.D.	<1000	P
		BBP	D	N.D.	<1000	P
3	LED	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	D	N.D.	<1000	P
		PBDEs	D	N.D.	<1000	P
		HBCDD	D	N.D.	<1000	P
		DEHP	D	N.D.	<1000	P
		DBP	D	N.D.	<1000	P
		BBP	D	N.D.	<1000	P
4	Lamp base	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	D	/	<1000	N.A.
		PBDEs	D	/	<1000	N.A.
		HBCDD	D	/	<1000	N.A.
		DEHP	D	/	<1000	N.A.
		DBP	D	/	<1000	N.A.
		BBP	D	/	<1000	N.A.

SAMP LE NO.	COMPONENTS	Item	Results of EDXRF (P/F/D)	Results of testing(mg/kg)	Chemical testing limit (mg/kg)	Conclusio n (P/F)
5	LED PCB	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	D	N.D.	<1000	P
		PBDEs	D	N.D.	<1000	P
		HBCDD	D	N.D.	<1000	P
		DEHP	D	N.D.	<1000	P
		DBP	D	N.D.	<1000	P
		BBP	D	N.D.	<1000	P
6	Connector	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	D	N.D.	<1000	P
		PBDEs	D	N.D.	<1000	P
		HBCDD	D	N.D.	<1000	P
		DEHP	D	N.D.	<1000	P
		DBP	D	N.D.	<1000	P
		BBP	D	N.D.	<1000	P
7	IC	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	D	N.D.	<1000	P
		PBDEs	D	N.D.	<1000	P
		HBCDD	D	N.D.	<1000	P
		DEHP	D	N.D.	<1000	P
		DBP	D	N.D.	<1000	P
		BBP	D	N.D.	<1000	P
8	Resistor	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	D	N.D.	<1000	P
		PBDEs	D	N.D.	<1000	P
		HBCDD	D	N.D.	<1000	P
		DEHP	D	N.D.	<1000	P
		DBP	D	N.D.	<1000	P
		BBP	D	N.D.	<1000	P

SAMPLE NO.	COMPONENTS	Item	Results of EDXRF (P/F/D)	Results of testing(mg/kg)	Chemical testing limit (mg/kg)	Conclusion (P/F)
9	Wire	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	D	N.D.	<1000	P
		PBDEs	D	N.D.	<1000	P
		HBCDD	D	N.D.	<1000	P
		DEHP	D	N.D.	<1000	P
		DBP	D	N.D.	<1000	P
10	Fuse	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	D	N.D.	<1000	P
		PBDEs	D	N.D.	<1000	P
		HBCDD	D	N.D.	<1000	P
		DEHP	D	N.D.	<1000	P
		DBP	D	N.D.	<1000	P
11	Rectifier	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	D	N.D.	<1000	P
		PBDEs	D	N.D.	<1000	P
		HBCDD	D	N.D.	<1000	P
		DEHP	D	N.D.	<1000	P
		DBP	D	N.D.	<1000	P
12	Capacitor	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	D	N.D.	<1000	P
		PBDEs	D	N.D.	<1000	P
		HBCDD	D	N.D.	<1000	P
		DEHP	D	N.D.	<1000	P
		DBP	D	N.D.	<1000	P
BBP	D	N.D.	<1000	P		

SAMP LE NO.	COMPONENTS	Item	Results of EDXRF (P/F/D)	Results of testing(mg/kg)	Chemical testing limit (mg/kg)	Conclusio n (P/F)
13	Diode	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	D	N.D.	<1000	P
		PBDEs	D	N.D.	<1000	P
		HBCDD	D	N.D.	<1000	P
		DEHP	D	N.D.	<1000	P
		DBP	D	N.D.	<1000	P
		BBP	D	N.D.	<1000	P
14	Transformer	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	D	N.D.	<1000	P
		PBDEs	D	N.D.	<1000	P
		HBCDD	D	N.D.	<1000	P
		DEHP	D	N.D.	<1000	P
		DBP	D	N.D.	<1000	P
		BBP	D	N.D.	<1000	P
15	Triode	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	D	N.D.	<1000	P
		PBDEs	D	N.D.	<1000	P
		HBCDD	D	N.D.	<1000	P
		DEHP	D	N.D.	<1000	P
		DBP	D	N.D.	<1000	P
		BBP	D	N.D.	<1000	P
16	PCB	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	D	N.D.	<1000	P
		PBDEs	D	N.D.	<1000	P
		HBCDD	D	N.D.	<1000	P
		DEHP	D	N.D.	<1000	P
		DBP	D	N.D.	<1000	P
		BBP	D	N.D.	<1000	P

SAMPLE NO.	COMPONENTS	Item	Results of EDXRF (P/F/D)	Results of testing(mg/kg)	Chemical testing limit (mg/kg)	Conclusion (P/F)
17	Soldering tin	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	D	/	<1000	N.A.
		PBDEs	D	/	<1000	N.A.
		HBCDD	D	/	<1000	N.A.
		DEHP	D	/	<1000	N.A.
		DBP	D	/	<1000	N.A.
		BBP	D	/	<1000	N.A.
18	Other metal accessories	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	D	/	<1000	N.A.
		PBDEs	D	/	<1000	N.A.
		HBCDD	D	/	<1000	N.A.
		DEHP	D	/	<1000	N.A.
		DBP	D	/	<1000	N.A.
		BBP	D	/	<1000	N.A.
19	Other plastic accessories	Cd	P	N.D.	<100	P
		Cr	P	N.D.	<1000	P
		Hg	P	N.D.	<1000	P
		Pb	P	N.D.	<1000	P
		PBBs	D	N.D.	<1000	P
		PBDEs	D	N.D.	<1000	P
		HBCDD	D	N.D.	<1000	P
		DEHP	D	N.D.	<1000	P
		DBP	D	N.D.	<1000	P
		BBP	D	N.D.	<1000	P

Note:

(1) N.D. = Not detected (<MDL)

(2) ppm = mg/kg

(3) N.A. = Not Analyzed

(4) Negative = the concentration of Hexavalent Chromium extracted from 50cm² sample is less than the detection limit.

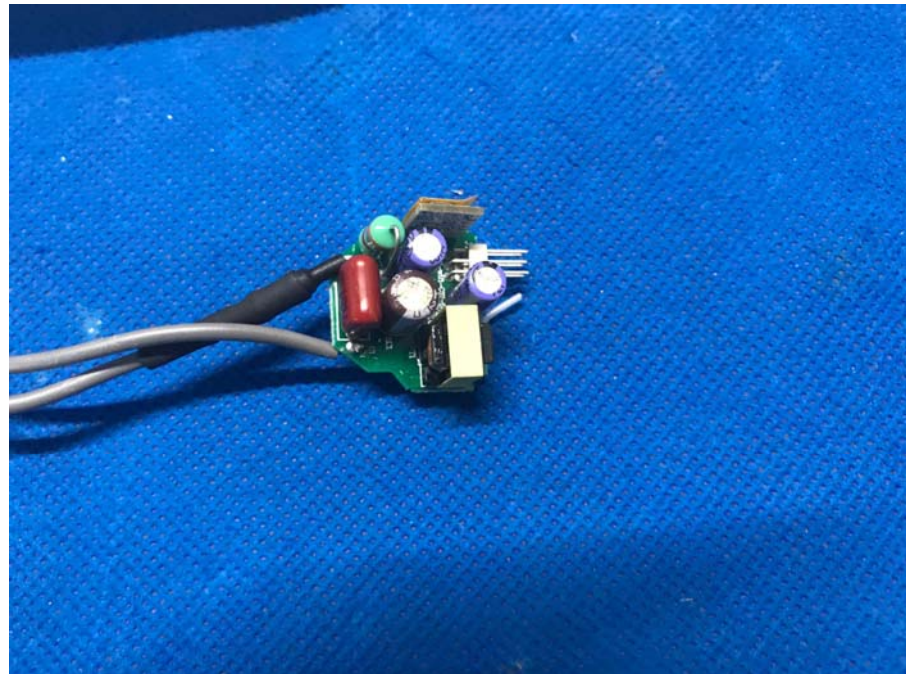
Appendix 1

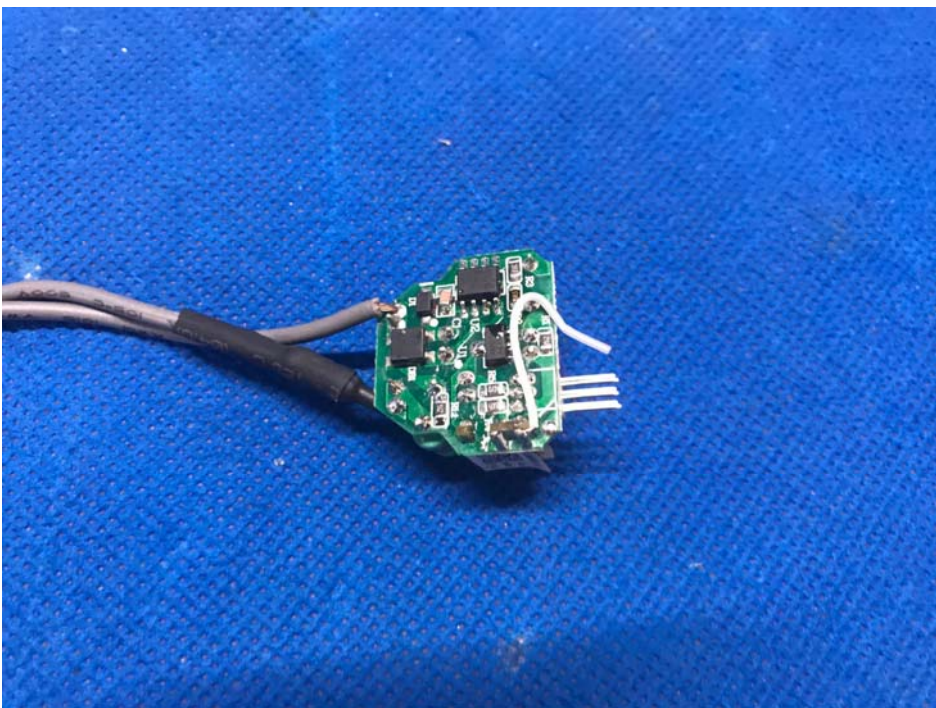
Photo documentation

<p>Photo 1</p> <p>View:</p> <p><input checked="" type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right side</p> <p><input type="checkbox"/> Left side</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p> <p><input type="checkbox"/> Internal</p>	
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<p>Photo 2</p> <p>View:</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right side</p> <p><input type="checkbox"/> Left side</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p> <p><input checked="" type="checkbox"/> Internal</p>	
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<p>Photo 3</p> <p>View:</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right side</p> <p><input type="checkbox"/> Left side</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p> <p><input checked="" type="checkbox"/> Internal</p>	 <p>A photograph showing a disassembled LED bulb. On the left is the white plastic bulb housing, and on the right is the circular LED PCB with several yellow LEDs and a central driver chip. The background is a blue textured surface.</p>
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<p>Photo 4</p> <p>View:</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right side</p> <p><input type="checkbox"/> Left side</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p> <p><input checked="" type="checkbox"/> Internal</p>	 <p>A close-up photograph of a green printed circuit board (PCB) containing an LED driver circuit. Components include a red electrolytic capacitor, a green LED, a yellow electrolytic capacitor, and several integrated circuits. Two grey wires are connected to the board. The background is a blue textured surface.</p>
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<p>Photo 6</p> <p>View:</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right side</p> <p><input type="checkbox"/> Left side</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p> <p><input checked="" type="checkbox"/> Internal</p>	
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