TEST REPORT

LAB NO. : **(9311)215-0461**
DATE : **Aug 12, 2011**

APPLICANT	:	FLASHBAY ELECTRONICS (SHENZHEN) CO., LTD 3-5/F, BLDG B, XIFENGCHENG INDUSTRIAL PARK, NO.2 FUYUAN RD, 2ND HIGH-TECH AREA, HEPING, FUYONG, BAOAN, SHENZHEN 518103, GUANGDONG PROVINCE, P.R.CHINA
CONTACT PERSON	:	Henry Guo
DATE OF SUBMISSION	:	Aug 03, 2011
TEST PERIOD	:	Aug 03, 2011 to Aug 12, 2011
NO. OF WORKING DAY(S)	:	8
SAMPLE DESCRIPTION	:	Tie Series USB Flash Drive Style No.: TS Color: Red Manufacturer: 天目电子(深圳)有限公司 深圳市宝安区福永街道和平高新二期福园 二路西丰成工业园 B 栋 3, 4, 5 楼

SUMMARY OF TEST RESULTS

TEST REQUESTED	PASS	FAIL	REMARK
Restriction of Hazardous Substances Directive (RoHS), 2011/65/EU	X		

RW

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REMARK

If there are questions or concerns on this report, please contact the following persons:

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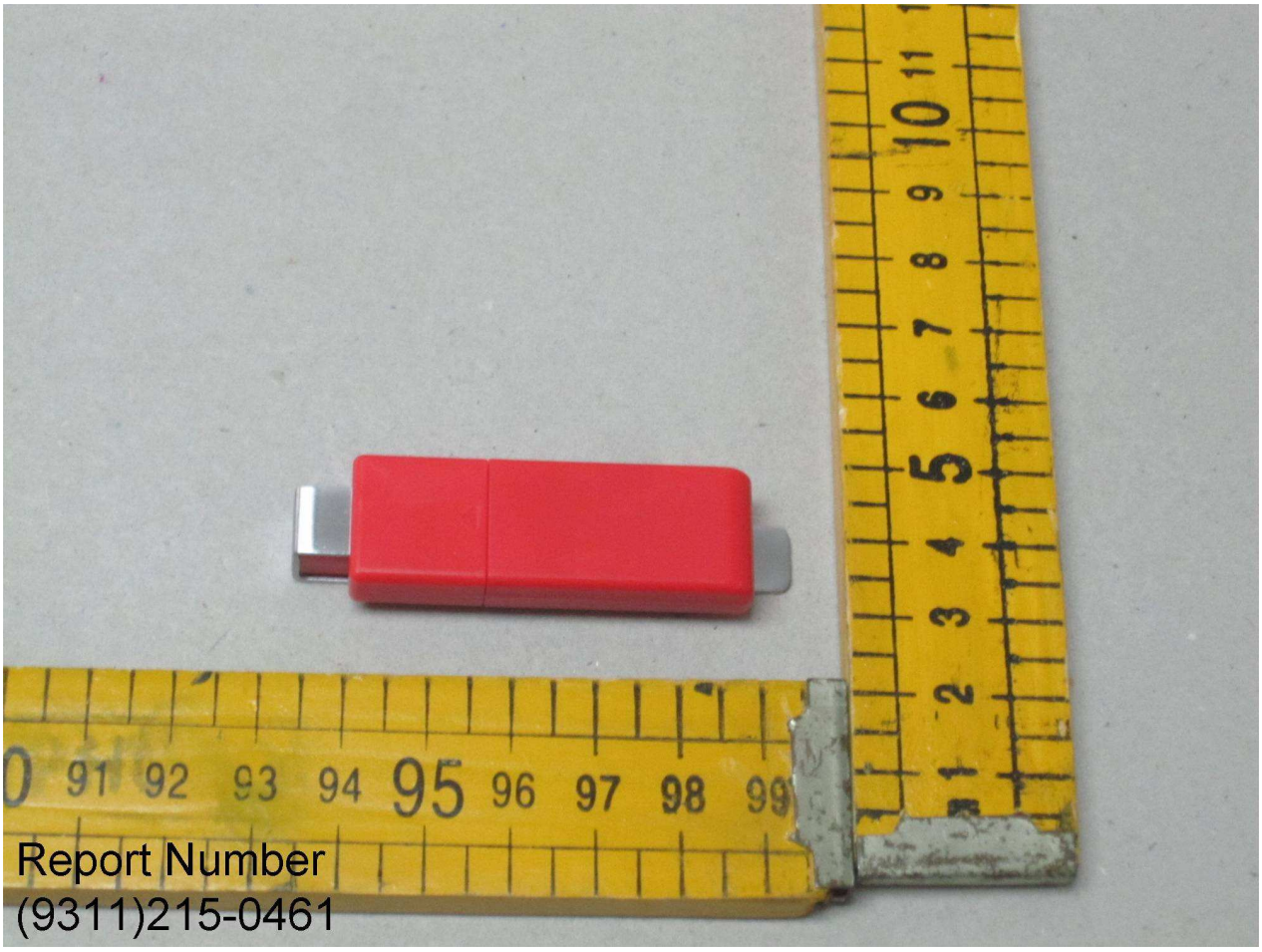
Photo of the Submitted Sample



TEST RESULT

Restriction of Hazardous Substances Directive (RoHS), 2011/65/EU

Test Item	Description	Test Results (ppm)				
		Pb	Hg	Cd	Cr VI	PBBs & PBDEs
1	Silvery metal (case, USB plug)	ND	ND	ND	ND	NA
2	Black plastic (pin holder, USB plug)	ND	ND	ND	ND	ND*
3	Silvery plated golden metal (pin, USB plug)	ND	ND	ND	ND	NA
4	Black/ white body (SMD resistor, PCB)	ND	ND	ND	ND	ND
5	Brown body (capacitor, PCB)	ND	ND	ND	ND	ND
6	White body (capacitor, PCB)	ND	ND	ND	ND	ND
7	Black body (capacitor, PCB)	ND	ND	ND	ND	ND
8	Black body (large IC, PCB)	ND	ND	ND	ND	ND
9	Silvery metal (pins, large IC, PCB)	ND	ND	ND	ND	NA
10	Black body (small IC, PCB)	ND	ND	ND	ND	ND
11	Silvery plated coppery metal (pins, small IC, PCB)	ND	ND	ND	ND	NA
12	Silvery solder (PCB)	ND	ND	ND	ND	NA
13	White printed green coated grey plastic with coppery metal (PCB)	ND	ND	ND	ND	ND*
14	Dull silvery printed white body (EC, PCB)	ND	ND	ND	ND*	ND
15	Silvery metal (plate, case)	ND	ND	ND	Negative[2)]*	NA
16	Silvery metal (screw, case)	ND	ND	ND	ND	NA
17	Red plastic (case)	ND	ND	ND	ND	ND

TEST RESULT

Restriction of Hazardous Substances Directive (RoHS), 2011/65/EU

Photograph(s) of tested components	
	
	

Note:
Detection limits of XRF and wet chemistry methods for regulated substances in various matrices and limit of RoHS (in ppm)

Regulated Substances	Detection Limit (ppm)				RoHS' Limit (ppm)
	XRF			Wet Chemistry	
	Plastics	Metals	Electronics		
Pb	100	200	200	10	1000
Hg	100	200	200	10	1000
Cd	50	50	50	10	100
Cr	100	200	200	NA	NA
Cr VI	NA	NA	NA	10	1000
Br	200	NA	200	NA	NA
PBBs *Bromobiphenyls* *Dibromobiphenyls* *Tribromobiphenyls* *Tetrabromobiphenyls* *Pentabromobiphenyls* *Hexabromobiphenyls* *Heptabromobiphenyls* *Octabromobiphenyls* *Nonabromobiphenyls* *Decabromobiphenyl*	NA	NA	NA	50 (each)	1000 (sum)
PBDEs *Bromodiphenyl ethers* *Dibromodiphenyl ethers* *Tribromodiphenyl ethers* *Tetrabromodiphenyl ethers* *Pentabromodiphenyl ethers* *Hexabromodiphenyl ethers* *Heptabromodiphenyl ethers* *Octabromodiphenyl ethers* *Nonabromodiphenyl ethers* *Decabromodiphenyl ether*	NA	NA	NA	50 (each)	1000 (sum)

ppm = mg/kg < = less than ND = not detected NA = not applicable
L = low risk materials, no conflict with RoHS directive accordance to the UK Department of Trade and Industry RoHS compliance procedure
Pb = Lead Hg = Mercury Cd = Cadmium Cr = Chromium
Br = Bromine PBBs = Polybrominated Biphenyls PBDEs = Polybrominated Diphenyl Ethers

Test Method:
1. XRF Screening - IEC 62321:2008, "Electrotechnical Products- Determination of Levels of Six Regulated Substances" (Chapter 6) or;

2. Wet Chemistry Tests – Reference to to IEC 62321:2008, "Electrotechnical Products- Determination of Levels of Six Regulated Substances":

   i. Lead (Pb) and Cadmium (Cd): The sample is comminuted and digested with acid mixtures. Pb/ Cd contents are determined with ICP-AES technique. (Chapter 8, 9 & 10)
   ii. Mercury (Hg): The sample is comminuted and digested with acid mixtures. Hg content is determined with ICP-AES, ICP-MS or AAS-VGA technique. (Chapter 7)
   iii. Chromium (VI):
      A. Metal: Qualitative method for the presence of hexavalent chromium on metal surface on "Test for the presence of Hexavalent Chromium (Cr (VI)) in colourless and coloured corrosion-protection coatings on metals". The presence of hexavalent chromium is indicated by the formation of a red to violet color. The method is applied in turn to 1) untreated surface; 2) surface got by gently rubbing to scratch possibly reduced chromate surface but without completely removing the whole coating layer; 3) surface got by forcibly scratching into the deeper layers, even reaching the substrate. The sample is further verified by boiling water extraction method if the result of spot test shows ahead is negative or uncertain. (Annex B)
      B. Plastics & Electronics : The sample is comminuted and digested with alkaline mixtures. Chromium VI content is determined with UV-VIS spectroscopic technique. (Annex C)
   iv. PBBs and PBDEs: The sample extracted by appropriate solvent is used for extraction and quantified GC-MS. (Annex A)

3. The testing approach reference to:
   i. "RoHS Enforcement Guidance Document version 1" by EU RoHS Enforcement Authorities Informal Network (May 2006),
   ii. "RoHS Regulations – Government Guidance Notes" by Department of Trade and Industry, UK (Jan 2007), and
   iii. "RoHS substances (Hg, Pb, Cr(VI), Cd, PBB and PBDE) in electrical and electronic equipment in Belgium" by Belgium Federal Public Service, Health, Food Chain Safety and Environment, Belgium (Nov 2005)

Remark:
1. Test results marked with * are determined by wet chemistry. Others are screened by XRF.
2. Positive means the presence of hexavalent chromium on the tested areas. It is regarded as in conflict with RoHS requirements. According to the IEC 62321, the principle of this method was evaluated and supported by two studies organized by IEC TC111 WG3. The studies were focused on detecting the presence of Cr(VI) in metallic samples.
3. For XRF screening, the reported Chromium VI result is determined as total chromium, and Polybrominated Biphenyls (PBBs) and Polybrominated Diphenyl Ethers (PBDEs) results are determined as total bromine.
4. Only selected example(s) is/ are indicated on the above photograph.
5. The above results of items 1-14 are transferred from (9311)215-0427 dated on Aug 12, 2011.

END