測試報告
Test Report

號碼(No.) : CE/2007/74238C　日期(Date) : 2007/08/31　頁數(Page) : 1 of 9

超豐電子股份有限公司
GREATEK ELECTRONICS INC.
苗栗縣竹南鎮公義路136號
NO. 136, GUNG-YI RD., CHUNAN CHENG, MIAOLI HSIEN 350, TAIWAN, R. O. C.

以下測試樣品係由客戶送樣，且由客戶聲稱並經客戶確認如下 (The following samples was/were submitted and identified by/on behalf of the client as)：

樣品名稱(Sample Description)	:	P-DIP & SOP & SSOP & SOJ & SOT SERIES
收件日期(Sample Receiving Date)	:	2007/07/18
測試期間(Testing Period)	:	2007/07/18 TO 2007/07/25 AND 2007/08/24 TO 2007/08/31

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測試結果(Test Results) : 請見下一頁 (Please refer to next pages).

* 此份報告爲加測及合併 CE/2007/74238 *
(This report is added testing and combined with CE/3008/74238)

Daniel Yeh, M.R. / Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory - Taipei

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測試結果(Test Results)

測試部位(PART NAME) NO.1 : 黑色本體 (BLACK BODY)
測試部位(PART NAME) NO.2 : 銀色金屬的底材 (BASE MATERIAL OF SILVER COLORED METAL)
測試部位(PART NAME) NO.3 : 銀色金屬鍍層 (PLATING LAYER OF SILVER COLORED METAL)

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測極限值	結果 (Result)		
				NO.1	NO.2	NO.3
鎘 / Cadmium (Cd)	mg/kg	參考IEC 62321, Ed. 1 111/54/CDV方法, 用感應藕合電漿原子發射光譜儀 (ICP-AES) 檢測鎘含量. / With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Cadmium by ICP-AES.	2	n.d.	n.d.	n.d.
鉛 / Lead (Pb)	mg/kg	參考IEC 62321, Ed. 1 111/54/CDV方法, 用感應藕合電漿原子發射光譜儀 (ICP-AES) 檢測鉛含量. / With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Lead by ICP-AES.	2	n.d.	9	25
汞 / Mercury (Hg)	mg/kg	參考IEC 62321, Ed. 1 111/54/CDV方法, 用感應藕合電漿原子發射光譜儀 (ICP-AES) 檢測汞含量. / With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Mercury by ICP-AES.	2	n.d.	n.d.	n.d.
六價鉻 / Hexavalent Chromium Cr(VI) by alkaline extraction	mg/kg	針對非金屬材質之樣品, 參考IEC 62321, Ed. 1 111/54/CDV方法檢測, 用UV-VIS檢測六價鉻含量. / With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.	2	n.d.	---	---

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測極限值	結果 (Result)		
				NO.1	NO.2	NO.3
六價鉻 / Hexavalent Chromium Cr(VI) by Spot test / boiling water extraction	**	針對金屬材質之樣品，參考IEC 62321, Ed. 1 111/54/CDV方法檢測，用Spot test / Colorimetric方法檢測六價鉻含量. / With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Hexavalent Chromium for metallic samples by Spot test / Colorimetric Method.	0.02mg/kg with 50 cm^2 surface area	---	Negative	Negative
鎳 / Nickel (Ni)	mg/kg	參考US EPA 3050B 方法，用感應耦合電漿原子發射光譜儀檢測鎳含量. / With reference to US EPA Method 3050B for Nickel Content. Analysis was performed by ICP-AES.	2	---	127	---
多溴聯苯總和 / Sum of PBBs	mg/kg	參考IEC 62321, Ed. 1 111/54/CDV方法，以氣相層析儀/質譜儀檢測多溴聯苯和多溴聯苯醚含量. / With reference to IEC 62321, Ed.1 111/54/CDV. Determination of PBB and PBDE by GC/MS.	-	n.d.	---	---
一溴聯苯 / Monobromobiphenyl			5	n.d.	---	---
二溴聯苯 / Dibromobiphenyl			5	n.d.	---	---
三溴聯苯 / Tribromobiphenyl			5	n.d.	---	---
四溴聯苯 / Tetrabromobiphenyl			5	n.d.	---	---
五溴聯苯 / Pentabromobiphenyl			5	n.d.	---	---
六溴聯苯 / Hexabromobiphenyl			5	n.d.	---	---
七溴聯苯 / Heptabromobiphenyl			5	n.d.	---	---
八溴聯苯 / Octabromobiphenyl			5	n.d.	---	---
九溴聯苯 / Nonabromobiphenyl			5	n.d.	---	---
十溴聯苯 / Decabromobiphenyl			5	n.d.	---	---

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測極限值	結果 (Result)		
				NO.1	NO.2	NO.3
多溴聯苯醚總和 (一至九溴) / Sum of PBDEs (Mono to Nona) (Note 4)	mg/kg	參考IEC 62321, Ed. 1 111/54/CDV方法, 以氣相層析儀/質譜儀檢測多溴聯苯和多溴聯苯醚含量. / With reference to IEC 62321, Ed.1 111/54/CDV. Determination of PBB and PBDE by GC/MS.	-	n.d.	---	---
一溴聯苯醚 / Monobromobiphenyl ether			5	n.d.	---	---
二溴聯苯醚 / Dibromobiphenyl ether			5	n.d.	---	---
三溴聯苯醚 / Tribromobiphenyl ether			5	n.d.	---	---
四溴聯苯醚 / Tetrabromobiphenyl ether			5	n.d.	---	---
五溴聯苯醚 / Pentabromobiphenyl ether			5	n.d.	---	---
六溴聯苯醚 / Hexabromobiphenyl ether			5	n.d.	---	---
七溴聯苯醚 / Heptabromobiphenyl ether			5	n.d.	---	---
八溴聯苯醚 / Octabromobiphenyl ether			5	n.d.	---	---
九溴聯苯醚 / Nonabromobiphenyl ether			5	n.d.	---	---
十溴聯苯醚 / Decabromobiphenyl ether			5	n.d.	---	---
多溴聯苯醚總和 (一至十溴) / Sum of PBDEs (Mono to Deca)			-	n.d.	---	---

備註(Note):

1. mg/kg = ppm
2. n.d. = Not Detected (未檢出)
3. MDL = Method Detection Limit (方法偵測極限值)
4. 根據2005年10月13日歐盟會議公佈2005/717/EC，修訂2002/95/EC內容，通過解除高分子材質中十溴聯苯醚之使用限制. (According to 2005/717/EC DecaBDE is exempt.)
5. "-" = Not Regulated (無規格值)
6. "---" = Not Conducted (未測項目)
7. **= Qualitative analysis (No Unit) 定性分析(無單位)
8. Negative = Undetectable 陰性(未偵測到); Positive = Detectable 陽性(已偵測到)

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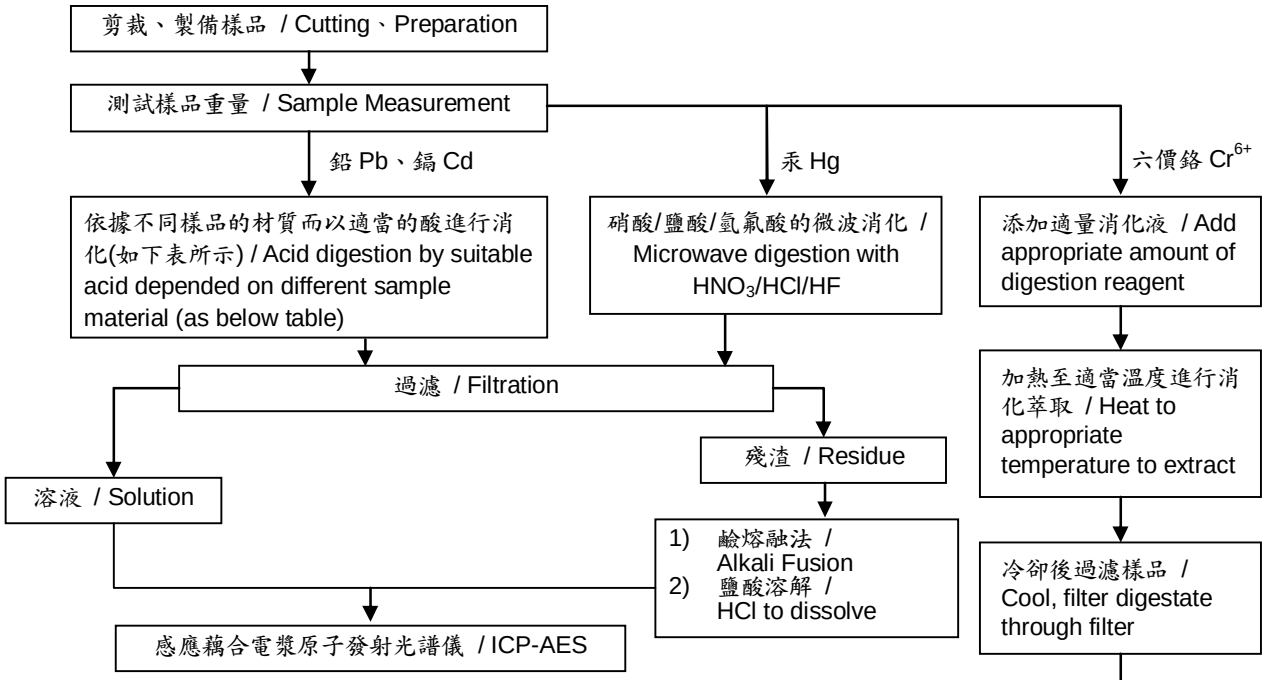
1) 根據以下的流程圖之條件，樣品已完全溶解。(六價鉻測試方法除外) / These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr^{6+} test method excluded)
2) 測試人員：張啓興 / Name of the person who made measurement: Troy Chang
3) 測試負責人：葉禮源 / Name of the person in charge of measurement: Daniel Yeh



樣品材質 / Sample Material	消化酸液種類 / Digestion Acid
鋼, 銅, 鋁, 焊錫 / Steel, copper, aluminum, solder	王水, 硝酸, 鹽酸, 氫氟酸, 雙氧水 / Aqua regia, HNO_3, HCl, HF, H_2O_2
玻璃 / Glass	硝酸,氫氟酸 / HNO_3/HF
金, 鉑, 鈀, 陶瓷 / Gold, platinum, palladium, ceramic	王水 / Aqua regia
銀 / Silver	硝酸 / HNO_3
塑膠 / Plastic	硫酸, 雙氧水, 硝酸, 鹽酸 / H_2SO_4, H_2O_2, HNO_3, HCl
其他 / Others	加入任何酸至完全溶解 / Any acid to total digestion

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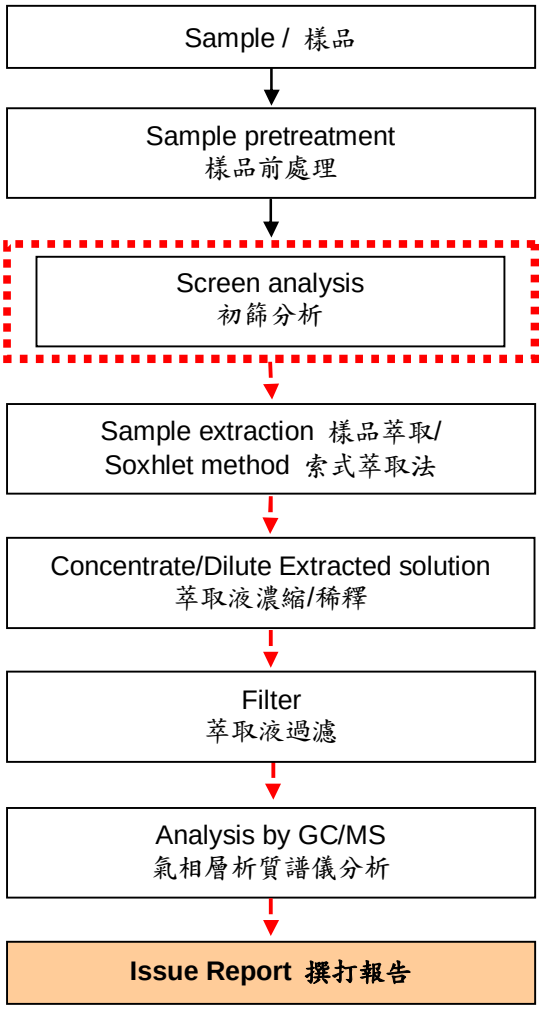
多溴聯苯/多溴聯苯醚分析流程圖 / PBB/PBDE analytical FLOW CHART

初次測試程序 / First testing process

選擇性篩檢程序 / Optional screen process

確認程序 / Confirmation process



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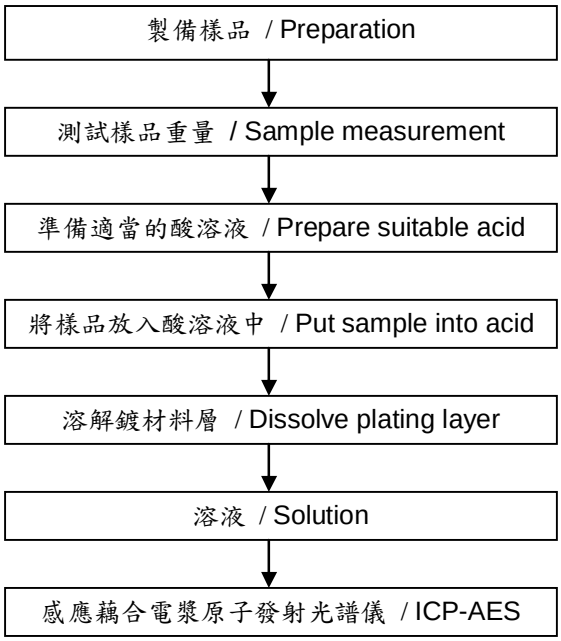
2) 測試人員：張啓興 / Name of the person who made measurement: Troy Chang
3) 測試負責人：葉禮源 / Name of the person in charge of measurement: Daniel

鍍層重金屬測試流程圖 / Flow Chart of Stripping method for metal analysis



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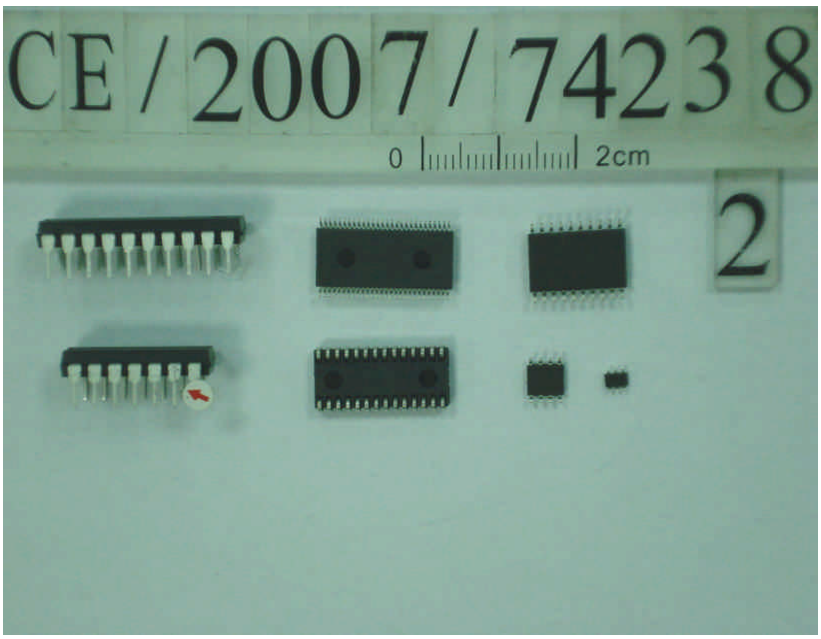

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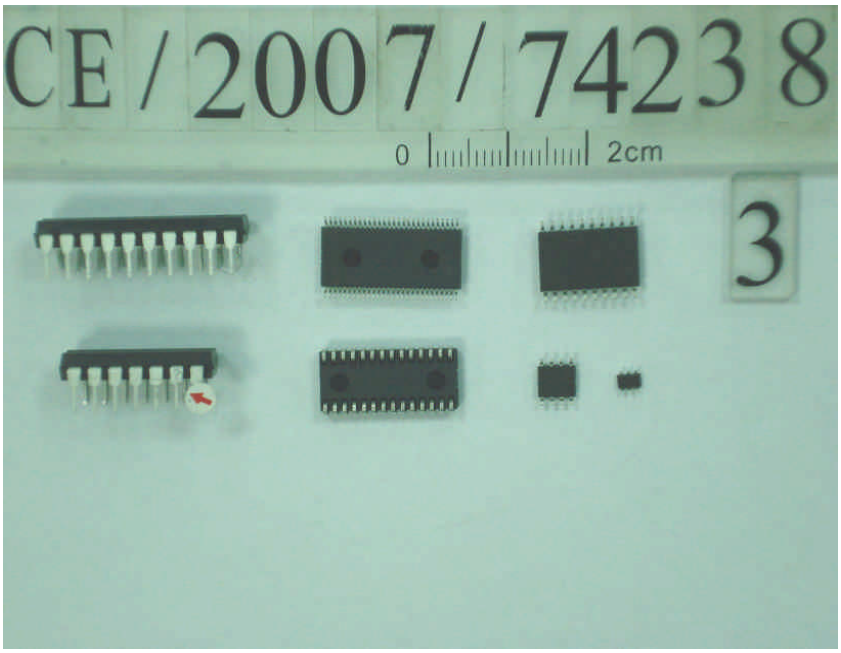

** 報告結尾 **

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