

測試報告

Test Report

號碼(No.) : CE/2018/B5768

日期(Date) : 2018/12/06

頁數(Page): 1 of 15

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, GONG-YI RD., ZHUNAN TOWNSHIP, MIAOLI COUNTY 350, TAIWAN, R. O. C.



以下測試樣品係由申請廠商所提供及確認 (The following sample(s) was/were submitted and identified by/on behalf of the applicant as) :

送樣廠商(Sample Submitted By) : 超豐電子股份有限公司 (GREATEK ELECTRONICS INC.)
樣品名稱(Sample Description) : SOP & SSOP & P-DIP & SOJ & SOT SERIES
收件日期(Sample Receiving Date) : 2018/11/30
測試期間(Testing Period) : 2018/11/30 to 2018/12/06

=====
測試結果(Test Results) : 請參閱下一頁 (Please refer to following pages).


Troy Chang, Manager - Tech
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory - Taipei



This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Termse-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instruction, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced, except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

測試報告

Test Report

號碼(No.) : CE/2018/B5768

日期(Date) : 2018/12/06

頁數(Page): 2 of 15

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, GONG-YI RD., ZHUNAN TOWNSHIP, MIAOLI COUNTY 350, TAIWAN, R. O. C.



測試結果(Test Results)

測試部位(PART NAME)No. 1 : 混測所有本體 (MIXED ALL PARTS OF BODY)

測試部位(PART NAME)No. 2 : 混測銀色金屬腳鍍層 (MIXED ALL PLATING LAYER OF SILVER COLORED METAL PIN)

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)	
				No. 1	No. 2
鎘 / Cadmium (Cd)	mg/kg	參考IEC 62321-5 (2013), 以感應耦合電漿原子發射光譜儀檢測. / With reference to IEC 62321-5 (2013) and performed by ICP-AES.	2	n. d.	---
鉛 / Lead (Pb)	mg/kg		2	n. d.	---
汞 / Mercury (Hg)	mg/kg	參考IEC 62321-4 (2013), 以感應耦合電漿原子發射光譜儀檢測. / With reference to IEC 62321-4 (2013) and performed by ICP-AES.	2	n. d.	---
六價鉻 / Hexavalent Chromium Cr(VI)	mg/kg	參考IEC 62321-7-2 (2017), 以UV-VIS檢測. / With reference to IEC 62321-7-2 (2017) and performed by UV-VIS.	8	n. d.	---
鎘 / Cadmium (Cd)	mg/kg	酸洗脫鍍層, 參考IEC 62321-5 (2013), 以感應耦合電漿原子發射光譜儀檢測. / IEC 62321-5 (2013) application of modified digestion by surface etching and performed by ICP-AES.	2	---	n. d.
鉛 / Lead (Pb)	mg/kg		2	---	6.34
汞 / Mercury (Hg)	mg/kg	酸洗脫鍍層, 參考IEC 62321-4 (2013), 以感應耦合電漿原子發射光譜儀檢測. / IEC 62321-4 (2013) application of modified digestion by surface etching and performed by ICP-AES.	2	---	n. d.
六價鉻 / Hexavalent Chromium Cr(VI)(#2)	µg/cm ²	參考IEC 62321-7-1 (2015), 以UV-VIS檢測. / With reference to IEC 62321-7-1 (2015) and performed by UV-VIS.	0.10	---	n. d.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Termse-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instruction, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced, except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

測試報告

Test Report

號碼(No.) : CE/2018/B5768

日期(Date) : 2018/12/06

頁數(Page): 3 of 15

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, GONG-YI RD., ZHUNAN TOWNSHIP, MIAOLI COUNTY 350, TAIWAN, R. O. C.



測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)	
				No. 1	No. 2
多溴聯苯總和 / Sum of PBBs	mg/kg	參考IEC 62321-6 (2015), 以氣相層析儀 / 質譜儀檢測. / With reference to IEC 62321-6 (2015) and performed by GC/MS.	-	n. d.	---
一溴聯苯 / Monobromobiphenyl	mg/kg		5	n. d.	---
二溴聯苯 / Dibromobiphenyl	mg/kg		5	n. d.	---
三溴聯苯 / Tribromobiphenyl	mg/kg		5	n. d.	---
四溴聯苯 / Tetrabromobiphenyl	mg/kg		5	n. d.	---
五溴聯苯 / Pentabromobiphenyl	mg/kg		5	n. d.	---
六溴聯苯 / Hexabromobiphenyl	mg/kg		5	n. d.	---
七溴聯苯 / Heptabromobiphenyl	mg/kg		5	n. d.	---
八溴聯苯 / Octabromobiphenyl	mg/kg		5	n. d.	---
九溴聯苯 / Nonabromobiphenyl	mg/kg		5	n. d.	---
十溴聯苯 / Decabromobiphenyl	mg/kg		5	n. d.	---
多溴聯苯醚總和 / Sum of PBDEs	mg/kg		-	n. d.	---
一溴聯苯醚 / Monobromodiphenyl ether	mg/kg		5	n. d.	---
二溴聯苯醚 / Dibromodiphenyl ether	mg/kg		5	n. d.	---
三溴聯苯醚 / Tribromodiphenyl ether	mg/kg		5	n. d.	---
四溴聯苯醚 / Tetrabromodiphenyl ether	mg/kg		5	n. d.	---
五溴聯苯醚 / Pentabromodiphenyl ether	mg/kg		5	n. d.	---
六溴聯苯醚 / Hexabromodiphenyl ether	mg/kg		5	n. d.	---
七溴聯苯醚 / Heptabromodiphenyl ether	mg/kg		5	n. d.	---
八溴聯苯醚 / Octabromodiphenyl ether	mg/kg		5	n. d.	---
九溴聯苯醚 / Nonabromodiphenyl ether	mg/kg	5	n. d.	---	
十溴聯苯醚 / Decabromodiphenyl ether	mg/kg	5	n. d.	---	
鄰苯二甲酸二(2-乙基己基)酯 / DEHP (Di-(2-ethylhexyl) phthalate) (CAS No. : 117-81-7)	mg/kg	參考IEC 62321-8 (2017), 以氣相層析儀 / 質譜儀檢測. / With reference to IEC 62321-8 (2017). Analysis was performed by GC/MS.	50	n. d.	---
鄰苯二甲酸丁苄甲酯 / BBP (Butyl Benzyl phthalate) (CAS No. : 85-68-7)	mg/kg		50	n. d.	---
鄰苯二甲酸二丁酯 / DBP (Dibutyl phthalate) (CAS No. : 84-74-2)	mg/kg		50	n. d.	---
鄰苯二甲酸二異丁酯 / DIBP (Di-isobutyl phthalate) (CAS No. : 84-69-5)	mg/kg		50	n. d.	---

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Termse-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instruction, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced, except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

測試報告

Test Report

號碼(No.) : CE/2018/B5768

日期(Date) : 2018/12/06

頁數(Page): 4 of 15

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, GONG-YI RD., ZHUNAN TOWNSHIP, MIAOLI COUNTY 350, TAIWAN, R. O. C.



測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)	
				No. 1	No. 2
鄰苯二甲酸二異癸酯 / DIDP (Di-isodecyl phthalate) (CAS No. : 26761-40-0; 68515-49-1)	mg/kg	參考IEC 62321-8 (2017), 以氣相層析儀 / 質譜儀檢測. / With reference to IEC 62321-8 (2017). Analysis was performed by GC/MS.	50	n. d.	---
鄰苯二甲酸二異壬酯 / DINP (Di-isononyl phthalate) (CAS No. : 28553-12-0; 68515-48-0)	mg/kg		50	n. d.	---
鄰苯二甲酸二正辛酯 / DNOP (Di-n-octyl phthalate) (CAS No. : 117-84-0)	mg/kg		50	n. d.	---
鄰苯二甲酸二戊酯 / DNPP (Di-n-pentyl phthalate) (CAS No. : 131-18-0)	mg/kg		50	n. d.	---
六溴環十二烷及所有主要被辨別出的異構物 / Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α -HBCDD, β -HBCDD, γ -HBCDD) (CAS No. : 25637-99-4 and 3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8))	mg/kg	參考IEC 62321 (2008), 以氣相層析儀 / 質譜儀檢測. / With reference to IEC 62321 (2008). Analysis was performed by GC/MS.	5	n. d.	---
鹵素 / Halogen					
鹵素 (氟) / Halogen-Fluorine (F) (CAS No. : 14762-94-8)	mg/kg	參考BS EN 14582 (2016), 以離子層析儀分析. / With reference to BS EN 14582 (2016). Analysis was performed by IC.	50	n. d.	---
鹵素 (氯) / Halogen-Chlorine (Cl) (CAS No. : 22537-15-1)	mg/kg		50	n. d.	---
鹵素 (溴) / Halogen-Bromine (Br) (CAS No. : 10097-32-2)	mg/kg		50	n. d.	---
鹵素 (碘) / Halogen-Iodine (I) (CAS No. : 14362-44-8)	mg/kg		50	n. d.	---
銻 / Antimony (Sb)	mg/kg	參考US EPA 3052 (1996), 以感應耦合電漿原子發射光譜儀檢測. / With reference to US EPA 3052 (1996). Analysis was performed by ICP-AES.	2	n. d.	---

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Termse-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instruction, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced, except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

測試報告

Test Report

號碼(No.) : CE/2018/B5768

日期(Date) : 2018/12/06

頁數(Page): 5 of 15

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, GONG-YI RD., ZHUNAN TOWNSHIP, MIAOLI COUNTY 350, TAIWAN, R. O. C.



測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)	
				No. 1	No. 2
全氟辛烷磺酸 / Perfluorooctane sulfonates (PFOS-Acid, Metal Salt, Amide)	mg/kg	參考US EPA 3550C (2007), 以液相層析儀/質譜儀檢測. / With reference to US EPA 3550C (2007). Analysis was performed by LC/MS.	10	n. d.	---
全氟辛酸 / PFOA (CAS No. : 335-67-1)	mg/kg		10	n. d.	---

備註(Note) :

1. mg/kg = ppm ; 0.1wt% = 1000ppm
2. n. d. = Not Detected (未檢出)
3. MDL = Method Detection Limit (方法偵測極限值)
4. "-" = Not Regulated (無規格值)
5. "---" = Not Conducted (未測項目)
6. (#2) =
 - a. 當六價鉻結果大於0.13 $\mu\text{g}/\text{cm}^2$, 表示樣品表層含有六價鉻. / The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13 $\mu\text{g}/\text{cm}^2$. The sample coating is considered to contain Cr(VI).
 - b. 當六價鉻結果為n. d. (濃度小於0.10 $\mu\text{g}/\text{cm}^2$), 表示表層不含六價鉻. / The sample is negative for Cr(VI) if Cr(VI) is n. d. (concentration less than 0.10 $\mu\text{g}/\text{cm}^2$). The coating is considered a non-Cr(VI) based coating
 - c. 當六價鉻結果介於 0.10 及 0.13 $\mu\text{g}/\text{cm}^2$ 時, 無法確定塗層是否含有六價鉻. / The result between 0.10 $\mu\text{g}/\text{cm}^2$ and 0.13 $\mu\text{g}/\text{cm}^2$ is considered to be inconclusive - unavoidable coating variations may influence the determination.
7. 樣品的測試是基於申請人要求混合測試, 報告中的混合測試結果不代表其中個別單一材質的含量. (The samples was/were analyzed on behalf of the applicant as mixing sample in one testing. The above results was/were only given as the informality value.)

PFOS參考資訊(Reference Information) : 持久性有機污染物 POPs - (EU) 757/2010

PFOS濃度在物質或製備中不得超過0.001%(10ppm), 在半成品、成品或零部件中不得超過0.1%(1000ppm), 在紡織品或塗層材料中不得超過 $1\mu\text{g}/\text{m}^2$ 。

(Outlawing PFOS as substances or preparations in concentrations above 0.001% (10ppm), in semi-finished products or articles or parts at a level above 0.1%(1000ppm), in textiles or other coated materials above $1\mu\text{g}/\text{m}^2$.)