

Test Report

號碼(No.): ETR24700771 日期(Date): 12-Jul-2024 頁數(Page): 1 of 24

億光電子工業股份有限公司 (EVERLIGHT ELECTRONICS CO., LTD.) 新北市樹林區中華路6-8號 (NO. 6-8, ZHONGHUA RD., SHULIN DIST., NEW TAIPEI CITY 23860, TAIWAN)

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 the applicant as):

, -	
BASIC INFORMATION	
Type of Product	DIP ECD
Supplier Company Name	EVERLIGHT
Address	NO.6-8, ZHONGHUA RD., SHULIN DIST., NEW TAIPEI CITY 23860, TAIWAN
Tel / Fax / Email	TEL:886-2685-6688
	FAX:886-2685-6699
	E-MAIL: lindawang@everlight.com
Contact Person	LI LING WANG
EVERLIGHT REPORT NO	DIP ECD SERIES : ECD04 SERIES
	Sampling Product: ECD04T1520F/TB-SGS-12-Jul-2024
PRODUCT INFORMATION	
Product/component Sample	Opto–Sensor
description	
Quantity (numbers or weight)	0.4909 g
EVERLIGHT P/N	DIP ECD SERIES : ECD04 SERIES
	Sampling Product : ECD04T1520F/TB
Product Lot No	ZS24032119-001
Country of Origin	China
TEST INFORMATION	
Sample preparation	CUTTING
Test Method	RoHS: IEC 62321, Halogen: BS EN 14582
MDL	Cd, Pb, Hg: 2 mg/kg, PBBs/PBDEs: 5 mg/kg, Halogen: 50 mg/kg
*************************************	佐小夫フェッカー ハラ (F) (FDLICHT FLECTDONICS CO. LTD.)

送樣廠商(Sample Submitted By) : 億光電子工業股份有限公司 (EVERLIGHT ELECTRONICS CO., LTD.)

收件日(Sample Receiving Date) : 03-Jul-2024

測試期間(Testing Period) : 03-Jul-2024 to 12-Jul-2024

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

Troy Chang / Department Malager Signed for and on behalf of Alwan SGS TAIWAN LTD. Chemical Laboratory - Taipei CHECK PART OF REPORT OF

PIN CODE: 0070EF4E



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測試需求(Test Requested)

(1) 依據客戶指定·參考RoHS 2011/65/EU Annex II及其修訂指令(EU) 2015/863測試 鎘、鉛、汞、六價鉻、多溴聯苯、多溴聯苯醚, DBP, BBP, DEHP, DIBP。 (As specified by client, with reference to RoHS 2011/65/EU Annex II and amending Directive (EU) 2015/863 to determine Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP contents in the submitted sample(s).)

(2) 依據客戶指定‧測試 PAHs 及其他測項。 (As specified by client, to test PAHs and other item(s).)

結 論(Conclusion)

- (1) 根據客戶所提供的樣品·其鎘、鉛、汞、六價鉻、多溴聯苯、多溴聯苯醚, DBP, BBP, DEHP, DIBP的測試結果符合RoHS 2011/65/EU Annex II暨其修訂指令(EU) 2015/863 之限值要求。 (Based on the performed tests on submitted sample(s), the test results of Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.)
- (2) 根據客戶所提供的樣品·多環芳香烴測試結果符合德國產品安全委員會(AfPS) GS PAHs 第 3 類「其它產品」之限值要求。(Based upon the performed tests on the submitted sample(s), the test results of PAHs (15 items) comply with the limits of PAHs requirement (Category 3)「Other consumer products」 as set by German Committee on Product Safety (AfPS) GS PAHs.)

測試部位敘述 (Test Part Description)

No.1 : 黑色塑膠 (BLACK PLASTIC)

No.2 : 本體 (BODY)

No.3 : 透明塑膠 (TRANSPARENT PLASTIC)

No.4 : 銀色金屬接腳鍍層 (PLATING LAYER OF SILVER COLORED METAL PIN)
No.5 : 銀色金屬接腳底材 (BASE MATERIAL OF SILVER COLORED METAL PIN)

No.6 : 銀色金屬接腳 (含鍍層) (SILVER COLORED METAL PIN (INCLUDING THE PLATING LAYER))

測試結果 (Test Results)

測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL		結果 (Result)		限值 (Limit)
				No.1	No.2	No.3	
鎘 (Cd) (Cadmium (Cd))	參考IEC 62321-5: 2013 · 以感 應耦合電漿發射光譜儀分析。	mg/kg	2	n.d.	n.d.	n.d.	100
鉛 (Pb) (Lead (Pb))	(With reference to IEC 62321- 5: 2013, analysis was performed by ICP-OES.)	mg/kg	2	n.d.	n.d.	n.d.	1000



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測試項目	測試方法	單位	MDL		結果		限值
(Test Items)	(Method)	(Unit)		(Result)			(Limit)
T (1) (1)	# #UEC COOOL 4 0010 ALADI			No.1	No.2	No.3	1000
汞 (Hg) (Mercury (Hg))	參考IEC 62321-4: 2013+ AMD1: 2017,以感應耦合電漿發射光譜	mg/kg	2	n.d.	n.d.	n.d.	1000
	[2017,以恩應稱口电聚發射元韻 儀分析。(With reference to IEC						
	62321-4: 2013+ AMD1: 2017,						
	analysis was performed by ICP-						
	OES.)						
六價鉻 Cr(VI) (Hexavalent Chromium	參考IEC 62321-7-2: 2017,以	mg/kg	8	n.d.	n.d.	n.d.	1000
Cr(VI))	紫外光-可見光分光光度計分						
	析。(With reference to IEC						
	62321-7-2: 2017, analysis was						
	performed by UV-VIS.)						
一溴聯苯 (Monobromobiphenyl)		mg/kg	5	n.d.	n.d.	n.d.	-
二溴聯苯 (Dibromobiphenyl)		mg/kg	5	n.d.	n.d.	n.d.	-
三溴聯苯 (Tribromobiphenyl)		mg/kg	5	n.d.	n.d.	n.d.	-
四溴聯苯 (Tetrabromobiphenyl)		mg/kg	5	n.d.	n.d.	n.d.	-
五溴聯苯 (Pentabromobiphenyl)		mg/kg	5	n.d.	n.d.	n.d.	-
六溴聯苯 (Hexabromobiphenyl)		mg/kg	5	n.d.	n.d.	n.d.	-
七溴聯苯 (Heptabromobiphenyl)		mg/kg	5	n.d.	n.d.	n.d.	-
八溴聯苯 (Octabromobiphenyl)		mg/kg	5	n.d.	n.d.	n.d.	-
九溴聯苯 (Nonabromobiphenyl)	 參考IEC 62321-6: 2015,以氣	mg/kg	5	n.d.	n.d.	n.d.	-
十溴聯苯 (Decabromobiphenyl)	相層析儀/質譜儀分析。(With	mg/kg	5	n.d.	n.d.	n.d.	-
多溴聯苯總和 (Sum of PBBs)	reference to IEC 62321-6:	mg/kg	-	n.d.	n.d.	n.d.	1000
一溴聯苯醚 (Monobromodiphenyl ether)	2015, analysis was performed	mg/kg	5	n.d.	n.d.	n.d.	-
二溴聯苯醚 (Dibromodiphenyl ether)	by GC/MS.)	mg/kg	5	n.d.	n.d.	n.d.	-
三溴聯苯醚 (Tribromodiphenyl ether)	<i>3,</i> 23,	mg/kg	5	n.d.	n.d.	n.d.	-
四溴聯苯醚 (Tetrabromodiphenyl ether)		mg/kg	5	n.d.	n.d.	n.d.	-
五溴聯苯醚 (Pentabromodiphenyl ether)		mg/kg	5	n.d.	n.d.	n.d.	-
六溴聯苯醚 (Hexabromodiphenyl ether)		mg/kg	5	n.d.	n.d.	n.d.	-
七溴聯苯醚 (Heptabromodiphenyl ether)		mg/kg	5	n.d.	n.d.	n.d.	-
八溴聯苯醚 (Octabromodiphenyl ether)		mg/kg	5	n.d.	n.d.	n.d.	-
九溴聯苯醚 (Nonabromodiphenyl ether)		mg/kg	5	n.d.	n.d.	n.d.	-
十溴聯苯醚 (Decabromodiphenyl ether)		mg/kg	5	n.d.	n.d.	n.d.	-
多溴聯苯醚總和 (Sum of PBDEs)		mg/kg	-	n.d.	n.d.	n.d.	1000



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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL		結果 (Result)		限值 (Limit)
(333 33 3,	((01113)		No.1	No.2	No.3	
鄰苯二甲酸丁苯甲酯 (BBP) (Butyl benzyl phthalate (BBP))		mg/kg	50	n.d.	n.d.	n.d.	1000
鄰苯二甲酸二丁酯 (DBP) (Dibutyl phthalate (DBP))		mg/kg	50	n.d.	n.d.	n.d.	1000
鄰苯二甲酸二(2-乙基己基)酯 (DEHP) (Di-(2-ethylhexyl) phthalate (DEHP))		mg/kg	50	n.d.	n.d.	n.d.	1000
鄰苯二甲酸二異丁酯 (DIBP) (Diisobutyl phthalate (DIBP))		mg/kg	50	n.d.	n.d.	n.d.	1000
鄰苯二甲酸二異癸酯 (DIDP) (Diisodecyl phthalate (DIDP)) (CAS No.: 26761-40-0, 68515-49-1)		mg/kg	50	n.d.	n.d.	n.d.	-
鄰苯二甲酸二異壬酯 (DINP) (Diisononyl phthalate (DINP)) (CAS No.: 28553-12-0, 68515-48-0)	- 本来IFC 62221 0: 2017 - N 与	mg/kg	50	n.d.	n.d.	n.d.	-
鄰苯二甲酸二正辛酯 (DNOP) (Di-n-octyl phthalate (DNOP)) (CAS No.: 117-84-0)	參考IEC 62321-8: 2017·以氣 相層析儀/質譜儀分析。(With reference to IEC 62321-8:	mg/kg	50	n.d.	n.d.	n.d.	-
鄰苯二甲酸二正戊酯 (DNPP) (Di-n-pentyl phthalate (DNPP)) (CAS No.: 131-18-0)	2017, analysis was performed by GC/MS.)	mg/kg	50	n.d.	n.d.	n.d.	-
鄰苯二甲酸二正己酯 (DNHP) (Di-n-hexyl phthalate (DNHP)) (CAS No.: 84-75-3)		mg/kg	50	n.d.	n.d.	n.d.	-
鄰苯二甲酸雙(2-甲氧基乙基)酯 (DMEP) (Bis(2-methoxyethyl) phthalate (DMEP)) (CAS No.: 117-82-8)		mg/kg	50	n.d.	n.d.	n.d.	-
鄰苯二甲酸二甲酯 (DMP) (Dimethyl phthalate (DMP)) (CAS No.: 131-11-3)		mg/kg	50	n.d.	n.d.	n.d.	-
鄰苯二甲酸二異辛酯 (DIOP) (Diisooctyl phthalate (DIOP)) (CAS No.: 27554-26-3)		mg/kg	50	n.d.	n.d.	n.d.	-



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測試項目	測試方法	單位	MDL		結果		限值
(Test Items)	(Method)	(Unit)			(Result)		(Limit)
				No.1	No.2	No.3	
鄰苯二甲酸二正壬酯 (DNNP) (Di-n-nonyl phthalate (DNNP)) (CAS No.: 84-76-4)	參考IEC 62321-8: 2017 · 以氣相層析儀/質譜儀分析。(With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.)	mg/kg	50	n.d.	n.d.	n.d.	-
六溴環十二烷及所有主要被辨別出的異構物(HBCDD) (α - HBCDD, β - HBCDD, γ - HBCDD) (Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α - HBCDD, β - HBCDD, γ - HBCDD)) (CAS No.: 25637-99-4, 3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8))	参考IEC 62321: 2008 · 以氣相層析儀/質譜儀分析。(With reference to IEC 62321: 2008, analysis was performed by GC/MS.)	mg/kg	5	n.d.	n.d.	n.d.	-
氟 (F) (Fluorine (F)) (CAS No.: 14762- 94-8)		mg/kg	50	70.1	n.d.	n.d.	-
氯 (Cl) (Chlorine (Cl)) (CAS No.: 22537-15-1)	參考BS EN 14582: 2016·以離子層析儀分析。(With reference to BS EN 14582:	mg/kg	50	75.9	n.d.	n.d.	-
溴 (Br) (Bromine (Br)) (CAS No.: 10097-32-2)	2016, analysis was performed by IC.)	mg/kg	50	n.d.	n.d.	n.d.	-
碘 (I) (lodine (I)) (CAS No.: 14362-44-8)	iby ic.)	mg/kg	50	n.d.	n.d.	n.d.	-
全氟辛烷磺酸及其鹽類 (PFOS and its salts) (CAS No.: 1763-23-1 and its salts)	参考CEN/TS 15968: 2010 · 以 液相層析串聯質譜儀分析。 (With reference to CEN/TS	mg/kg	0.01	n.d.	n.d.	n.d.	-
全氟辛酸及其鹽類 (PFOA and its salts) (CAS No.: 335-67-1 and its salts)	15968: 2010, analysis was performed by LC/MS/MS.)	mg/kg	0.01	n.d.	n.d.	n.d.	-
鈹 (Be) (Beryllium (Be)) (CAS No.: 7440-41-7)	參考US EPA 3052: 1996·以感應耦合電漿發射光譜儀分析。 (With reference to US EPA 3052: 1996, analysis was performed by ICP-OES.)	mg/kg	2	n.d.	n.d.	n.d.	-



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測試項目	測試方法	單位	MDL		結果		限值
(Test Items)	(Method)	(Unit)		No. 1	(Result)	Na 2	(Limit)
多環芳香烴 (Polycyclic Aromatic				No.1	No.2	No.3	
分場方音性 (Polycyclic Arolliatic Hydrocarbons) (PAHs)							
苯駢(a)芘 (Benzo[a]pyrene) (CAS No.:		mg/kg	0.2	n.d.	n.d.	n.d.	Δ
50-32-8)		mg/kg	0.2	n.a.	11.d.	n.a.	Δ
苯騈(e)芘 (Benzo[e]pyrene) (CAS No.:		mg/kg	0.2	n.d.	n.d.	n.d.	Δ
192-97-2)		1119/109	0.2	m.d.	ii.d.	11.0.	Δ
苯駢蒽 (Benzo[a]anthracene) (CAS		mg/kg	0.2	n.d.	n.d.	n.d.	Δ
No.: 56-55-3)		<i>J. J</i>					
苯(b)苯駢芴 (Benzo[b]fluoranthene)		mg/kg	0.2	n.d.	n.d.	n.d.	Δ
(CAS No.: 205-99-2)							
苯(j)苯駢芴 (Benzo[j]fluoranthene)		mg/kg	0.2	n.d.	n.d.	n.d.	Δ
(CAS No.: 205-82-3)							
苯(k)苯駢芴 (Benzo[k]fluoranthene)	•	mg/kg	0.2	n.d.	n.d.	n.d.	Δ
(CAS No.: 207-08-9)	A * A fDC CC 2010:01 DAV N						
d (Chrysene) (CAS No.: 218-01-9)	參考AfPS GS 2019:01 PAK · 以 氣相層析儀/質譜儀分析。(With	mg/kg	0.2	n.d.	n.d.	n.d.	Δ
二苯駢蒽 (Dibenzo[a,h]anthracene)	reference to AfPS GS 2019:01	mg/kg	0.2	n.d.	n.d.	n.d.	Δ
(CAS No.: 53-70-3)	PAK, analysis was performed						
苯駢菲 (Benzo[g,h,i]perylene) (CAS	by GC/MS.)	mg/kg	0.2	n.d.	n.d.	n.d.	Δ
No.: 191-24-2)							
茚酮芘 (Indeno[1,2,3-c,d]pyrene)		mg/kg	0.2	n.d.	n.d.	n.d.	Δ
(CAS No.: 193-39-5)							
蒽 (Anthracene) (CAS No.: 120-12-7)		mg/kg	0.2	n.d.	n.d.	n.d.	Δ
苯駢芴 (Fluoranthene) (CAS No.:		mg/kg	0.2	n.d.	n.d.	n.d.	Δ
206-44-0)							
菲 (Phenanthrene) (CAS No.: 85-01-		mg/kg	0.2	n.d.	n.d.	n.d.	Δ
8)							
芘 (Pyrene) (CAS No.: 129-00-0)		mg/kg	0.2	n.d.	n.d.	n.d.	Δ
萘 (Naphthalene) (CAS No.: 91-20-3)		mg/kg	0.2	n.d.	n.d.	n.d.	Δ
多環芳香烴15項總和 (Sum of 15		mg/kg	-	n.d.	n.d.	n.d.	Δ
PAHs)							



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測試項目	測試方法	單位	MDL		結果		限值
(Test Items)	(Method)	(Unit)			(Result)		(Limit)
				No.4	No.5	No.6	
鎘 (Cd) (Cadmium (Cd))	酸洗脫鍍層·參考IEC 62321-5: 2013·以感應耦合電漿發射光譜 儀分析。(IEC 62321-5: 2013 application of modified digestion by surface etching, analysis was performed by ICP- OES.)	mg/kg	2	n.d.			100
鉛 (Pb) (Lead (Pb))	酸洗脫鍍層·參考IEC 62321-5: 2013·以感應耦合電漿發射光譜 儀分析。(IEC 62321-5: 2013 application of modified digestion by surface etching, analysis was performed by ICP- OES.)	mg/kg	2	38.7			1000
汞 (Hg) (Mercury (Hg))	酸洗脫鍍層·參考IEC 62321-4: 2013+ AMD1: 2017·以感應耦 合電漿發射光譜儀分析。(IEC 62321-4: 2013+AMD1: 2017 application of modified digestion by surface etching, analysis was performed by ICP- OES.)	mg/kg	2	n.d.			1000
鎘 (Cd) (Cadmium (Cd))	參考IEC 62321-5: 2013·以感 應耦合電漿發射光譜儀分析。 (With reference to IEC 62321- 5: 2013, analysis was performed by ICP-OES.)	mg/kg	2		n.d.		100
鉛 (Pb) (Lead (Pb))	參考IEC 62321-5: 2013·以感 應耦合電漿發射光譜儀分析。 (With reference to IEC 62321- 5: 2013, analysis was performed by ICP-OES.)	mg/kg	2		n.d.		1000



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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL		結果 (Result)		限值 (Limit)
(13311131113)	()	(3)		No.4	No.5	No.6	(=)
汞 (Hg) (Mercury (Hg))	參考IEC 62321-4: 2013+ AMD1: 2017 · 以感應耦合電漿發射光譜 儀分析。(With reference to IEC 62321-4: 2013+ AMD1: 2017, analysis was performed by ICP-OES.)	mg/kg	2		n.d.		1000
六價鉻 (Hexavalent Chromium) Cr(VI) (#2)	參考IEC 62321-7-1: 2015·以紫外光-可見光分光光度計分析。 (With reference to IEC 62321-7-1: 2015, analysis was performed by UV-VIS.)	μg/cm²	0.1	n.d.	n.d.		-
鈹 (Be) (Beryllium (Be)) (CAS No.: 7440-41-7)	參考US EPA 3050B: 1996·以感應耦合電漿發射光譜儀分析。 (With reference to US EPA 3050B: 1996, analysis was performed by ICP-OES.)	mg/kg	2			n.d.	-

備註(Note):

- 1. mg/kg = ppm; 0.1wt% = 0.1% = 1000ppm
- 2. MDL = Method Detection Limit (方法偵測極限值)
- 3. n.d. = Not Detected (未檢出); 小於MDL / Less than MDL
- 4. "-" = Not Regulated (無規格值)
- 5. "---" = Not Conducted (未測試項目)
- 6. (#2) =
 - a. 當六價鉻結果大於 $0.13 \mu g/cm^2$ ·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 $0.13 \mu g/cm^2$. The sample coating is considered to contain Cr(VI).
 - b. 當六價鉻結果為n.d. (濃度小於 $0.10~\mu g/cm^2$)·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 $0.10~\mu g/cm^2$). The coating is considered a non-Cr(VI) based coating
 - c. 當六價鉻結果介於 0.10 及 0.13 μg/cm² 時,無法確定塗層是否含有六價鉻. / The result between 0.10 μg/cm² and 0.13 μg/cm² is considered to be inconclusive unavoidable coating variations may influence the determination.
- 7. 除非另有說明,參照ILAC-G8:09/2019,採用簡單二元(w=0)允收規則進行符合性判定;根據此規則,符合性結果之判定係以測試結果與限值做比較。(Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w=0) stated in ILAC-G8:09/2019. According to this rule, the judgement of conformity is based on the comparing test results with limits.)



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PAHs Remark:

△ 德國產品安全委員會(AfPS): GS PAHs 要求

AfPS (German commission for Product Safety): GS PAHs requirements

	第 1 類(Category 1)	第 2 類(Cate	egory 2)	第 3 類(Cat	egory 3)
項目 (Parameter)	歲以下兒童使用的產品(Materials intended to be placed in the mouth, or materials in toys (Directive 2009/48/EC) or	見與皮膚接觸逾 30 利或重複的短時間接觸	炒(長期皮膚接觸) i(Materials that [,] 1, with eable long-term seconds) or	(短期皮膚接觸)(Mat covered by Catego	觸不超過 30 秒 erials not ry 1 or 2, with eable short-
	years of age with intended long-term skin contact (> 30 seconds))	a. 供 14 歲以下兒童使 用的產品(Use by children under 14)	consumer	a. 供 14 歲以下兒童使 用的產品(Use by children under 14)	consumer
Naphthalene	< 1	< 2		< 10	0
Phenanthrene					
Anthracene	< 1 Sum	< 5 Sum	< 10 Sum	< 20 Sum	< 50 Sum
Fluoranthene	< 1 3dili	< 3 Suiti	< 10 3uiii	< 20 Julii	< 30 3um
Pyrene					
Benzo[a]anthracene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Chrysene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo[b]fluoranthene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo[j]fluoranthene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo[k]fluoranthene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo[a]pyrene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo[e]pyrene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Indeno[1,2,3-c,d] pyrene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Dibenzo[a,h]anthracene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo[g,h,i]perylene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
15 項 PAH 總濃度 (Sum of 15 PAH)	< 1	< 5	< 10	< 20	< 50

單位(Unit):mg/kg



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PFAS Remark:

現有PFAS定量技術是分析PFAS物質的特定結構,但同碳數族群之PFAS酸及鹽類物質,其可被辨識的特定結構相同,因此無法區別所分析的特定結構是來自酸或者鹽類,故測試結果為同碳數族群之PFAS之酸及鹽類物質的濃度總合。下表PFAS物質濃度皆已包含在測試結果中,相關資訊請參見下表:(下表列舉PFAS物質僅為範例,並不包含所有同碳數族群之PFAS鹽類。)

(The quantitative technology of PFAS is to analyze the specific structure of PFAS substances. However, PFAS acid and its salts with the same carbon number group have the same specific structure that can be identified. The tested results of the analyzed specific structure cannot be distinguished to identify the contribution from PFAS acid or its salts. Therefore, the tested results display the sum of concentrations of PFAS acids and its salts with the same carbon number group. The concentration of PFAS substances in the below table have been included in the tested results, please refer to the table for relevant information: (The listed PFAS substances are examples only, it do not include all PFAS salts with the same carbon number group.))

群組名稱	物質名稱	CAS No.
(Group Name)	(Substance Name)	
	全氟辛烷磺酸 (Perfluorooctane sulfonates) (PFOS)	1763-23-1
	全氟辛基磺酸鉀 (PFOS-K) Potassium perfluorooctanesulfonate (PFOS-K)	2795-39-3
	全氟辛基磺酸鋰 (PFOS-Li) Perfluorooctanesulfonic acid, lithium salt (PFOS-Li)	29457-72-5
	全氟辛基磺酸銨 (PFOS-NH ₄) Perfluorooctanesulfonic acid, ammonium salt (PFOS-NH ₄)	29081-56-9
PFOS, 及其鹽&衍生物	全氟辛基磺酸二乙醇銨 (PFOS-NH(OH) ₂) Perfluorooctane sulfonate diethanolamine salt (PFOS-NH(OH) ₂)	70225-14-8
(PFOS, its salts & derivatives)	全氟辛基磺酸四乙基銨 (PFOS-N(C_2H_5) ₄) Perfluorooctanesulfonic acid,tetraethylammonium salt (PFOS-N(C_2H_5) ₄)	56773-42-3
	全氟辛基磺酸二癸二甲基銨 (PFOS-DDA) N-decyl-N,N-dimethyldecan-1-aminium 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8- heptadecafluorooctane-1-sulfonate (PFOS-DDA)	251099-16-8
	全氟辛基磺酸四丁基銨 (PFOS-N(C ₄ H ₉) ₄) TetrabutylAmmonium perfluorooctanesulfonate (PFOS-N(C ₄ H ₉) ₄)	111873-33-7
	全氟辛基磺醯氟 (POSF) Perfluorooctane sulfonyl fluoride (POSF)	307-35-7



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群組名稱 (Group Name)	物質名稱 (Substance Name)	CAS No.
	全氟辛基磺酸鎂 (PFOS-Mg) Perfluorooctanesulfonic acid, magnesium salt (PFOS-Mg)	91036-71-4
PFOS, 及其鹽&衍生物 (PFOS, its salts & derivatives)	全氟辛基磺酸鈉 (PFOS-Na) Perfluorooctanesulfonic acid, sodium salt (PFOS-Na)	4021-47-0
	全氟辛烷磺酸哌啶 Piperidine 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8- heptadecafluorooctanesulfonate	71463-74-6
	全氟辛酸 (Perfluorooctanoic acid) (PFOA)	335-67-1
	全氟辛酸鈉 (PFOA-Na) Sodium perfluorooctanoate (PFOA-Na)	335-95-5
	全氟辛酸鉀 (PFOA-K) Potassium perfluorooctanoate (PFOA-K)	2395-00-8
	全氟辛酸銀 (PFOA-Ag) Silver perfluorooctanote (PFOA-Ag)	335-93-3
	全氟辛氟 (PFOA-F) Perfluorooctanoyl fluoride (PFOA-F)	335-66-0
	全氟辛酸銨 (APFO) Ammonium pentadecafluorooctanoate (APFO)	3825-26-1
PFOA, 及其鹽&衍生物	全氟辛酸鋰 (PFOA-Li) Lithium perfluorooctanoate (PFOA-Li)	17125-58-5
(PFOA, 汉兵鹽&切主物 (PFOA, its salts & derivatives)	全氟辛酸鈷 (PFOA-Co) Cobalt perfluorooctanoate (PFOA-Co)	35965-01-6
	全氟辛酸銫 (PFOA-Cs) Cesium perfluorooctanoate (PFOA-Cs)	17125-60-9
	全氟辛酸鉻 (PFOA-Cr(3 ⁺)) Octanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8- pentadecafluoro-, chromium(3+) (PFOA-Cr(3 ⁺))	68141-02-6
	全氟辛酸-哌嗪(2:1) PFOA-NH($C_4H_{10}N$) Pentadecafluorooctanoic acidpiperazine (2/1)PFOA-NH($C_4H_{10}N$)	423-52-9
	全氟辛酸鹽 Pentadecafluorooctanoate (anion)	45285-51-6
	全氟辛酸酐 Perfluorooctanoic Anhydride	33496-48-9



Test Report

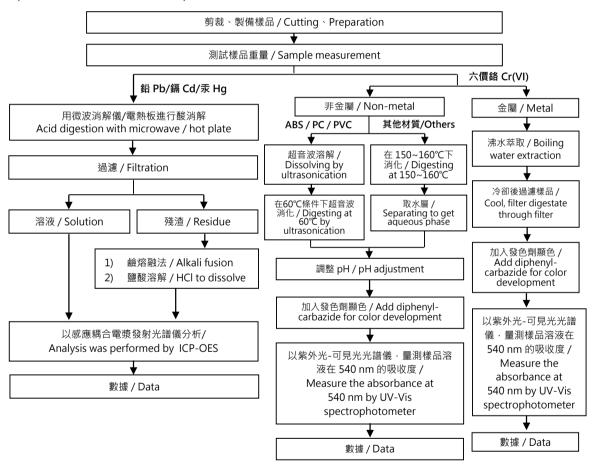
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重金屬流程圖 / Analytical flow chart of heavy metal

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)





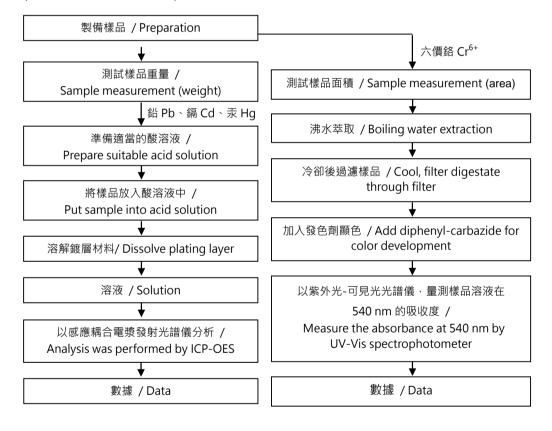
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鍍層重金屬測試流程圖 / Flow chart of stripping method for metal analysis

根據以下的流程圖之條件,樣品之外部鍍層已完全溶解。(六價鉻測試方法除外) / The plating layer of samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr^{6+} test method excluded)



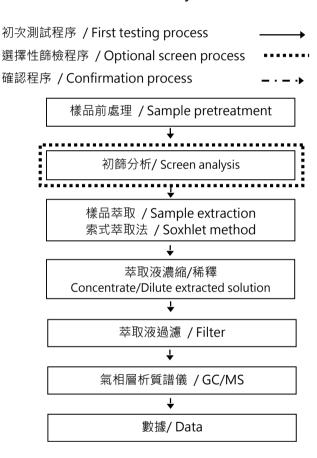


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多溴聯苯/多溴聯苯醚分析流程圖 / Analytical flow chart - PBBs/PBDEs





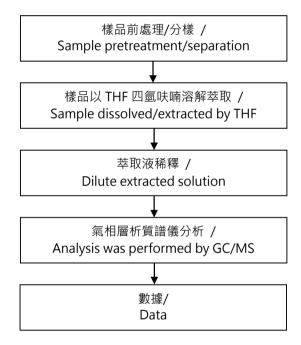
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可塑劑分析流程圖 / Analytical flow chart - Phthalate

【測試方法/Test method: IEC 62321-8】



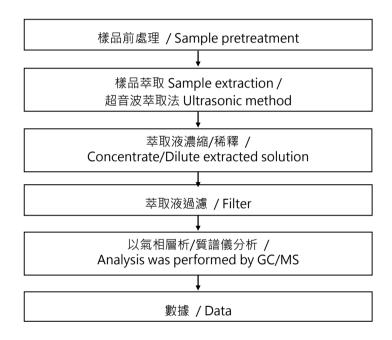


測試報告 Test Report

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六溴環十二烷分析流程圖 / Analytical flow chart - HBCDD



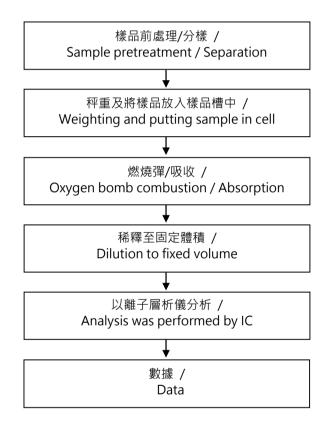


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鹵素分析流程圖 / Analytical flow chart - Halogen



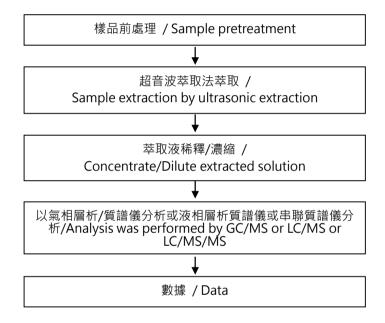


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全氟化合物(包含全氟辛酸/全氟辛烷磺酸/其相關化合物等等)分析流程圖 / Analytical flow chart – PFAS (including PFOA/PFOS/its related compound, etc.)



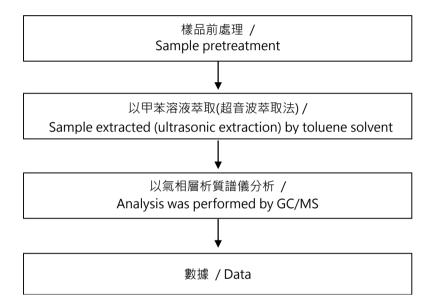


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多環芳香烴分析流程圖 / Analytical flow chart - PAHs (Polycyclic Aromatic Hydrocarbons)





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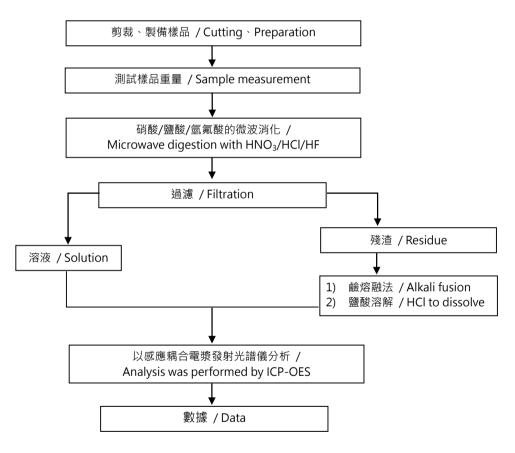
億光電子工業股份有限公司 (EVERLIGHT ELECTRONICS CO., LTD.) 新北市樹林區中華路6-8號 (NO. 6-8, ZHONGHUA RD., SHULIN DIST., NEW TAIPEI CITY 23860, TAIWAN)

元素(含重金屬)分析流程圖 / Analytical flow chart of elements (Heavy metal included)

根據以下的流程圖之條件,樣品已完全溶解。

These samples were dissolved totally by pre-conditioning method according to below flow chart.

【参考方法/Reference method: US EPA 3051A、US EPA 3052】



* US EPA 3051A 方法未添加氫氟酸 / US EPA 3051A method does not add HF.



Test Report

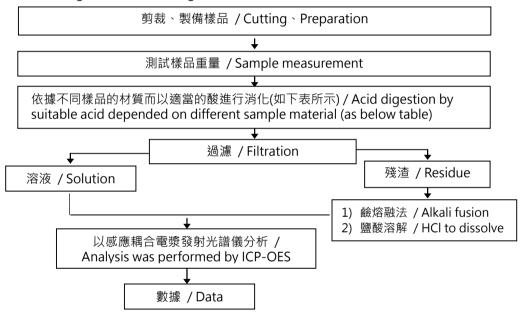
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元素以 ICP-OES 分析的消化流程圖

(Flow chart of digestion for the elements analysis performed by ICP-OES)

根據以下的流程圖之條件,樣品已完全溶解。 / These samples were dissolved totally by pre-conditioning method according to below flow chart.



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 ₂ O 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 / HNO₃
塑膠 / Plastic	硫酸,雙氧水,硝酸,鹽酸 / H ₂ SO ₄ , H ₂ O ₂ , HNO ₃ , HCl
其他 / Others	加入適當的試劑至完全溶解 / Added appropriate reagent to total digestion



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* 照片中如有箭頭標示,則表示為實際檢測之樣品/部位. * (The tested sample / part is marked by an arrow if it's shown on the photo.)

ETR24700771 NO.1



ETR24700771 NO.2





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ETR24700771 NO.3



ETR24700771 NO.4



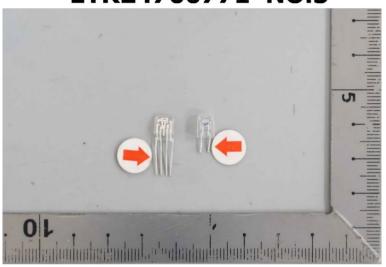


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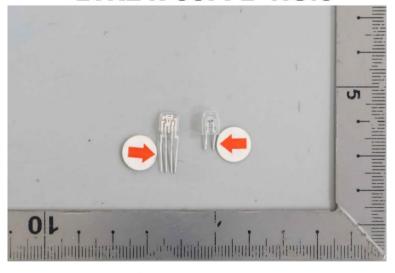
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ETR24700771 NO.5



ETR24700771 NO.6



** 報告結尾 (End of Report) **