

Test Report

號碼(No.): ETR23700863A01 日期(Date): 18-Jul-2023 頁數(Page): 1 of 12

智威科技股份有限公司 (ZOWIE TECHNOLOGY CORPORATION)

新北市新店區復興路43號3樓 (3/F., NO. 43, FUXING RD., XINDIAN DIST., NEW TAIPEI CITY, TAIWAN 23150)

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):

送樣廠商(Sample Submitted By)

: 智威科技股份有限公司 (ZOWIE TECHNOLOGY CORPORATION)

樣品名稱(Sample Name)

: DIODE & BRIDGE RECTIFIER (SUPER CHIP TYPE)

樣品型號(Style/Item No.)

8034, A3PS, A3PS-C, A3PS-G, A4PS-DT, A4PS-DT1, Z1PAK, Z1PAK-S, Z2PAK,

Z2APAK, Z3PAK, Z4PAK, Z4PAK-D, Z4PAK-DS, Z4PAK-S, Z5PAK-T, 3220, A3220, 0603, 0805, 0805-F, 1206, 1206-S, 1206-F, 1206-SF, A1206, 2010,

A2010, 2114, MBC, MBCR, MBCN

收件日(Sample Receiving Date)

12-Jul-2023

測試期間(Testing Period)

: 12-Jul-2023 to 18-Jul-2023

測試需求(Test Requested)

依據客戶要求進行測試,測試項目請參閱測試結果表格。(Testing item(s) is/are

specified by client. Please refer to result table for testing item(s).)

測試結果(Test Results)

請參閱下一頁 (Please refer to following pages.)





DINI CODE: A6D15543



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測試部位敘述 (Test Part Description)

No.1 : 整體混測 (MIXED ALL PARTS)

測試結果 (Test Results)

測試項目	測試方法	單位	MDL	結果
(Test Items)	(Method)	(Unit)		(Result)
				No.1
鎘 (Cd) (Cadmium (Cd))	參考IEC 62321-5: 2013 · 以感應耦合電漿發	mg/kg	2	n.d.
	射光譜儀分析。(With reference to IEC			
	62321-5: 2013, analysis was performed by			
	ICP-OES.)			
鉛 (Pb) (Lead (Pb))	參考IEC 62321-5: 2013,以感應耦合電漿發	mg/kg	2	11600
	射光譜儀分析。(With reference to IEC			
	62321-5: 2013, analysis was performed by			
	ICP-OES.)			
汞 (Hg) (Mercury (Hg))	參考IEC 62321-4: 2013+ AMD1: 2017,以	mg/kg	2	n.d.
	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.)			
六價鉻 Cr(VI) (Hexavalent Chromium	參考IEC 62321-7-2: 2017 · 以紫外光-可見光	mg/kg	8	n.d.
Cr(VI))	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.
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)	參考IEC 62321-6: 2015 · 以氣相層析儀/質譜	mg/kg	5	n.d.
六溴聯苯 (Hexabromobiphenyl)	儀分析。(With reference to IEC 62321-6:	mg/kg	5	n.d.
七溴聯苯 (Heptabromobiphenyl)	2015, analysis was performed by GC/MS.)	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.
多溴聯苯總和 (Sum of PBBs)		mg/kg	_	n.d.



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測試項目	測試方法	單位	MDL	結果
(Test Items)	(Method)	(Unit)		(Result)
				No.1
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)	參考IEC 62321-6: 2015,以氣相層析儀/質譜	mg/kg	5	n.d.
六溴聯苯醚 (Hexabromodiphenyl ether)	儀分析。(With reference to IEC 62321-6:	mg/kg	5	n.d.
七溴聯苯醚 (Heptabromodiphenyl ether)	2015, analysis was performed by GC/MS.)	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.
多溴聯苯醚總和 (Sum of PBDEs)		mg/kg	ı	n.d.
鄰苯二甲酸丁苯甲酯 (BBP) (Butyl benzyl		mg/kg	50	n.d.
phthalate (BBP))				
鄰苯二甲酸二丁酯 (DBP) (Dibutyl		mg/kg	50	n.d.
phthalate (DBP))				
鄰苯二甲酸二(2-乙基己基)酯 (DEHP) (Di-		mg/kg	50	n.d.
(2-ethylhexyl) phthalate (DEHP))				
鄰苯二甲酸二異丁酯 (DIBP) (Diisobutyl	 参考IEC 62321-8: 2017 · 以氣相層析儀/質譜	mg/kg	50	n.d.
phthalate (DIBP))	最分析。(With reference to IEC 62321-8:			
鄰苯二甲酸二異癸酯 (DIDP) (Diisodecyl	2017, analysis was performed by GC/MS.)	mg/kg	50	n.d.
phthalate (DIDP)) (CAS No.: 26761-40-	2017, dridiysis was performed by Ge, 1415.)			
0, 68515-49-1)				
鄰苯二甲酸二異壬酯 (DINP) (Diisononyl		mg/kg	50	n.d.
phthalate (DINP)) (CAS No.: 28553-12-				
0, 68515-48-0)				
鄰苯二甲酸二正辛酯 (DNOP) (Di-n-octyl		mg/kg	50	n.d.
phthalate (DNOP)) (CAS No.: 117-84-0)				



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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result) No.1
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))	參考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.
全氟辛烷磺酸及其鹽類 (PFOS and its salts) (CAS No.: 1763-23-1 and its salts)	參考CEN/TS 15968: 2010 · 以液相層析串聯 質譜儀分析。(With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.)	mg/kg	0.01	n.d.
全氟辛酸及其鹽類 (PFOA and its salts) (CAS No.: 335-67-1 and its salts)	參考CEN/TS 15968: 2010 · 以液相層析串聯質譜儀分析。(With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.)	mg/kg	0.01	n.d.
氟 (F) (Fluorine (F)) (CAS No.: 14762-94-8)	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.)	mg/kg	50	143
氯 (Cl) (Chlorine (Cl)) (CAS No.: 22537- 15-1)		mg/kg	50	123
溴 (Br) (Bromine (Br)) (CAS No.: 10097- 32-2)		mg/kg	50	n.d.
碘 (I) (Iodine (I)) (CAS No.: 14362-44-8)		mg/kg	50	n.d.



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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. 全氟辛烷磺酸及其鹽類包含等物質 (PFOS and its salts including): CAS No.: 1763-23-1, 2795-39-3, 29457-72-5, 29081-56-9, 70225-14-8, 56773-42-3, 251099-16-8, 307-35-7, 91036-71-4, 4021-47-0 and others.
- 6. 全氟辛酸及其鹽類包含等物質 (PFOA and its salts including): CAS No.: 335-67-1, 335-95-5, 2395-00-8, 335-93-3, 335-66-0, 3825-26-1 and others.
- 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 sample(s) was/were analyzed on behalf of the applicant as mixing sample in one testing. The above result(s) was/were only given as the informality value.
- 8. 本測試報告為加測及合併ETR23700863之報告。(This report is added testing and combined with ETR23700863.)



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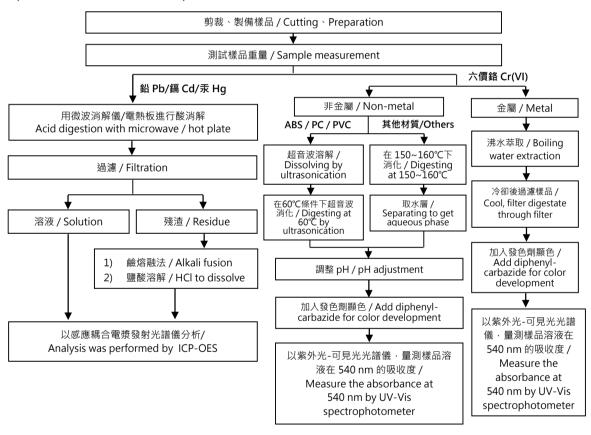
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重金屬流程圖 / Analytical flow chart of heavy metal

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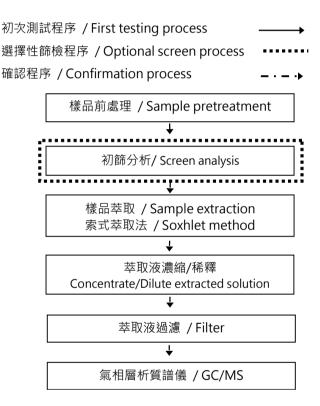
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多溴聯苯/多溴聯苯醚分析流程圖 / Analytical flow chart - PBBs/PBDEs





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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】

樣品前處理/分樣 / Sample pretreatment/separation

樣品以 THF 四氫呋喃溶解萃取 / Sample dissolved/extracted by THF

萃取液稀釋 / Dilute extracted solution

氧相層析質譜儀分析 / Analysis was performed by GC/MS



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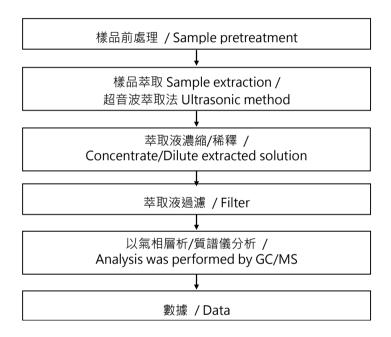
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六溴環十二烷分析流程圖 / Analytical flow chart - HBCDD





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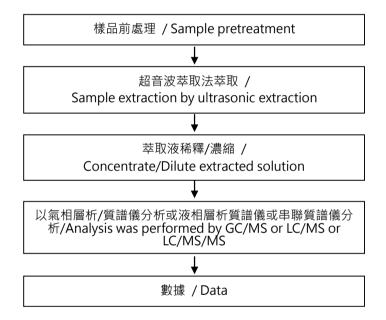
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全氟化合物(包含全氟辛酸/全氟辛烷磺酸/其相關化合物等等)分析流程圖 / Analytical flow chart – PFAS (including PFOA/PFOS/its related compound, etc.)





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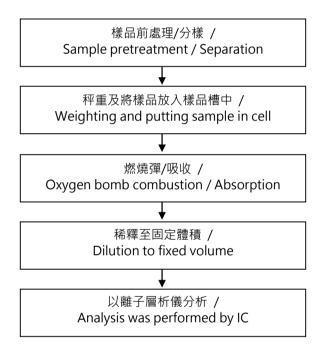
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鹵素分析流程圖 / Analytical flow chart - Halogen





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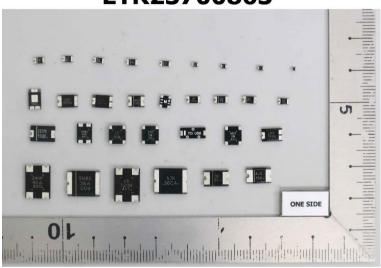
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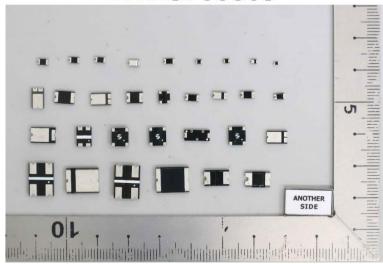
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* 照片中如有箭頭標示,則表示為實際檢測之樣品/部位. * (The tested sample / part is marked by an arrow if it's shown on the photo.)

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** 報告結尾 (End of Report) **