Test Report 測試報告

Number 報告號碼 : TWNC01356889

Issue Date 報告發行日期 : Apr 22, 2025

Applicant: 申請廠商
Favor Precision Technology Co., Ltd.
兆點科技股份有限公司
No. 370-2, Sec. 1, Xinnan Rd.,
Luzhu Dist., Taoyuan City, Taiwan
桃園市蘆竹區新南路一段 370-2 號

Sample Description 樣品敘述:

One (1) Group of Submitted Samples Said To Be :
以下測試樣品乃供應商所提供及確認:

Sample Description 樣品名稱	: FLIP CHIP (NICKEL PLATING / EN)
Style / Item No. 產品型號	: C1100
Date Sample Received 收件日期	: Apr 16, 2025
Date Test Started 開始測試日期	: Apr 16, 2025
Test Period 樣品測試期間	: Apr 16, 2025 to Apr 22, 2025

Test Conducted 測試執行:

As requested by the applicant, for details please refer to attached pages.
依申請商之要求, 細節請參考附頁.

Conclusion 結論:

Please see page two.
請見第二頁。

Authorized By:
On behalf of Intertek Testing Services Taiwan Limited

Matt Wang
General Manager

Signed by:

Thomas Chou
Manager

報告查詢 Report Verification

Intertek Testing Services Taiwan Ltd.
全國公證檢驗股份有限公司
8F., No. 423, Ruiguang Rd., Neihu District,
Taipei, 114690, Taiwan, R.O.C.
114690 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885
Fax: (+886-2) 6602-2420
www.intertek-twn.com

Test Report 測試報告

Number : TWNC01356889
報告號碼

Conclusion 結論:

Tested Sample 測試樣品	Standard 標準	Result 結果
Submitted Samples 送檢樣品	Restriction of Hazardous Substances (RoHS) 危害物質限制 – As per applicant's request with reference to 2011/65/EU and amendment (EU) 2015/863 依據客戶要求參考歐盟指令 2011/65/EU 及其更新指令 (EU) 2015/863	Pass 合格
	As per applicant's request 依據客戶要求	
	– Beryllium (Be) Content 鈹含量	See Test Conducted 請見測試內容
	– Antimony (Sb) Content 銻含量	See Test Conducted 請見測試內容
	– Halogen Content 鹵素含量	See Test Conducted 請見測試內容
	– Hexabromocyclododecane (HBCDD) Content 六溴環十二烷含量	See Test Conducted 請見測試內容
	– Perfluorooctane Sulfonates (PFOS) Content 全氟辛磺酸含量	See Test Conducted 請見測試內容
	– Perfluorooctanoic Acid (PFOA) Content 全氟辛酸含量	See Test Conducted 請見測試內容

Authorized By:
On behalf of Intertek Testing Services Taiwan Limited

Matt Wang
General Manager

Signed by:

Thomas Chou
Manager

Intertek Testing Services Taiwan Ltd.
全國公證檢驗股份有限公司
8F., No. 423, Ruiguang Rd., Neihu District, Taipei, 114690, Taiwan, R.O.C.
114690 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885
Fax: (+886-2) 6602-2420
www.intertek-twn.com

Test Conducted 測試內容：

Test Result Summary 測試結果：

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果 Silvery metal	MDL
Heavy Metal 重金屬				
Cadmium (Cd) Content 鎘含量	ppm	With reference to IEC 62321-5: 2013, by microwave or acid digestion and determined by ICP-OES. 參考 IEC 62321-5: 2013，以微波或酸液消化法消化樣品並用感應耦合電漿原子發射光譜儀分析。	ND	2
Lead (Pb) Content 鉛含量	ppm	With reference to IEC 62321-5: 2013, by microwave or acid digestion and determined by ICP-OES. 參考 IEC 62321-5: 2013，以微波或酸液消化法消化樣品並用感應耦合電漿原子發射光譜儀分析。	ND	2
Mercury (Hg) Content 汞含量	ppm	With reference to IEC 62321-4:2013+AMD1:2017, by microwave or acid digestion and determined by ICP-OES. 參考 IEC 62321-4:2013+AMD 1:2017，以微波或酸液消化法消化樣品並用感應耦合電漿原子發射光譜儀分析。	ND	2
Chromium VI (Cr(VI)) Content 六價鉻含量 @	$\mu g/cm^2$	With reference to IEC 62321-7-1: 2015, by boiling water extraction and determined by UV-Vis Spectrophotometer or visual observation. 參考 IEC 62321-7-1: 2015，以沸水萃取並用紫外光-可見光分光光度計分析或目測法判定。	Negative	0.10

Intertek Testing Services Taiwan Ltd.
全國公證檢驗股份有限公司
8F., No. 423, Ruiguang Rd., Neihu District, Taipei, 114690, Taiwan, R.O.C.
114690 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885
Fax: (+886-2) 6602-2420
www.intertek-twn.com

Test Conducted 測試內容：

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果 Silvery metal	MDL
Beryllium (Be) Compounds 鈹化合物				
Beryllium (Be) Content 鈹含量	ppm	With reference to USEPA 3052, by microwave digestion and determined by ICP-OES. 參考 USEPA 3052，以微波消化法並用感應耦合電漿原子發射光譜儀分析。	ND	2
Beryllium Oxide (BeO) (Calculated by Be Content) 氧化鈹 (以鈹含量計算)	ppm		ND	--
Antimony (Sb) Compounds 銻化合物				
Antimony (Sb) Content 銻含量	ppm	With reference to USEPA 3052, by microwave digestion and determined by ICP-OES. 參考 USEPA 3052，以微波消化法並用感應耦合電漿原子發射光譜儀分析。	ND	2
Antimony Trioxide (Sb_2O_3) (Calculated by Sb Content) 三氧化二銻 (以銻含量計算)	ppm		ND	--
Polybrominated Biphenyls (PBBs) 多溴聯苯				
Monobrominated Biphenyls (MonoBB) 單溴聯苯	ppm	With reference to IEC 62321-6: 2015, by solvent extraction and determined by GC-MS and further HPLC-DAD confirmation when necessary. 參考 IEC 62321-6: 2015，以溶劑萃取並用氣相層析質譜儀分析，必要時會以高效液相層析儀光二極體陣列偵測儀進行確認。	ND	5
Dibrominated Biphenyls (DiBB) 二溴聯苯	ppm		ND	5
Tribrominated Biphenyls (TriBB) 三溴聯苯	ppm		ND	5
Tetrabrominated Biphenyls (TetraBB) 四溴聯苯	ppm		ND	5
Pentabrominated Biphenyls (PentaBB) 五溴聯苯	ppm		ND	5
Hexabrominated Biphenyls (HexaBB) 六溴聯苯	ppm		ND	5
Heptabrominated Biphenyls (HeptaBB) 七溴聯苯	ppm		ND	5
Octabrominated Biphenyls (OctaBB) 八溴聯苯	ppm		ND	5
Nonabrominated Biphenyls (NonaBB) 九溴聯苯	ppm		ND	5
Decabrominated Biphenyl (DecaBB) 十溴聯苯	ppm		ND	5

Intertek Testing Services Taiwan Ltd.
全國公證檢驗股份有限公司
8F., No. 423, Ruiguang Rd., Neihu District, Taipei, 114690, Taiwan, R.O.C.
114690 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885
Fax: (+886-2) 6602-2420
www.intertek-twn.com

Test Conducted 測試內容：

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果 Silvery metal	MDL
Polybrominated Diphenyl Ethers (PBDEs) 多溴聯苯醚				
Monobrominated Diphenyl Ethers (MonoBDE) 單溴聯苯醚	ppm	With reference to IEC 62321-6: 2015, by solvent extraction and determined by GC-MS and further HPLC-DAD confirmation when necessary. 參考 IEC 62321-6: 2015，以溶劑萃取並用氣相層析質譜儀分析，必要時會以高效液相層析儀光二極體陣列偵測儀進行確認。	ND	5
Dibrominated Diphenyl Ethers (DiBDE) 二溴聯苯醚	ppm		ND	5
Tribrominated Diphenyl Ethers (TriBDE) 三溴聯苯醚	ppm		ND	5
Tetrabrominated Diphenyl Ethers (TetraBDE) 四溴聯苯醚	ppm		ND	5
Pentabrominated Diphenyl Ethers (PentaBDE) 五溴聯苯醚	ppm		ND	5
Hexabrominated Diphenyl Ethers (HexaBDE) 六溴聯苯醚	ppm		ND	5
Heptabrominated Diphenyl Ethers (HeptaBDE) 七溴聯苯醚	ppm		ND	5
Octabrominated Diphenyl Ethers (OctaBDE) 八溴聯苯醚	ppm		ND	5
Nonabrominated Diphenyl Ethers (NonaBDE) 九溴聯苯醚	ppm		ND	5
Decabrominated Diphenyl Ether (DecaBDE) 十溴聯苯醚	ppm		ND	5
Phthalates 鄰苯二甲酸酯				
Di(2-ethylhexyl) Phthalate (DEHP) 鄰苯二甲酸二(2-乙基己基)酯	ppm	With reference to IEC 62321-8:2017, by solvent extraction and determined by GC-MS. 參考 IEC 62321-8:2017，以溶劑萃取並用氣相層析質譜儀分析。	ND	50
Dibutyl Phthalate (DBP) 鄰苯二甲酸二丁酯	ppm		ND	50
Benzyl Butyl Phthalate (BBP) 鄰苯二甲酸苯基丁酯	ppm		ND	50
Diisobutyl Phthalate (DIBP) 鄰苯二甲酸二異丁酯	ppm		ND	50

Intertek Testing Services Taiwan Ltd.
全國公證檢驗股份有限公司
8F., No. 423, Ruiguang Rd., Neihu District, Taipei, 114690, Taiwan, R.O.C.
114690 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885
Fax: (+886-2) 6602-2420
www.intertek-twn.com

Test Conducted 測試內容：

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果 Silvery metal	MDL
Halogen Content 鹵素含量				
Fluorine (F) 氟	ppm	With reference to EN 14582:2016 by combustion bomb with oxygen and determined by Ion Chromatography. 參考 EN 14582:2016，以氧彈燃燒集氣法並用離子層析儀分析。	ND	50
Chlorine (Cl) 氯	ppm		ND	50
Bromine (Br) 溴	ppm		ND	50
Others 其他				
Hexabromocyclododecane (HBCDD) 六溴環十二烷	ppm	With reference to USEPA 3540C, by solvent extraction and determined by GC-MS. 參考 USEPA 3540C，以溶劑萃取並用氣相層析質譜儀分析。	ND	10
Perfluorooctane Sulfonates Including PFOS, PFOSA, N-Me-FOSA, N-Et-FOSA, N-Me-FOSE, N-Et-FOSE 全氟辛磺酸含 PFOS, PFOSA, N-Me-FOSA, N-Et-FOSA, N-Me-FOSE, N-Et-FOSE	ppm	With reference to CEN/TS 15968:2010, by solvent extraction and determined by LC-MS-MS. 參考 CEN/TS 15968:2010，以溶劑萃取並用液相層析串聯質譜儀分析。	ND	0.01
Perfluorooctanoic Acid (PFOA) 全氟辛酸	ppm	With reference to CEN/TS 15968:2010, by solvent extraction and determined by LC-MS-MS. 參考 CEN/TS 15968:2010，以溶劑萃取並用液相層析串聯質譜儀分析。	ND	0.01

Remarks: 備註
ppm = Parts per million based on weight of tested sample = mg/kg
百萬分之一，依據測試樣品重量計算 = 毫克/公斤
ND = Not detected 未檢測出
MDL = Quantitation limit of test method 方法偵測極限

Intertek Testing Services Taiwan Ltd.
全國公證檢驗股份有限公司
8F., No. 423, Ruiguang Rd., Neihu District, Taipei, 114690, Taiwan, R.O.C.
114690 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885
Fax: (+886-2) 6602-2420
www.intertek-twn.com

Test Conducted 測試內容：

@ The explanation of Chromium VI (Cr(VI)) analysis results 六價鉻分析結果說明

Colorimetric result 比色結果	Qualitative Result 定性結果	Explanation 說明
< 0.10 μg/cm^2	Negative 陰性	The result of sample is negative for Cr(VI). The sample coating is considered a non-Cr(VI) based coating. 六價鉻結果為陰性。樣品之鍍層可視為不含六價鉻。
≥ 0.10 μg/cm^2 and ≤ 0.13 μg/cm^2	Inconclusive 不確定	The result of sample is considered to be inconclusive. If addition samples are available, recommend to add trials and get the average result for the final determination. 六價鉻結果為不確定。若可取得較多樣品，建議增加測試次數並取得其平均值，以評估最後結果。
> 0.13 μg/cm^2	Positive 陽性	The result of sample is positive for Cr(VI). The sample coating is considered to contain Cr(VI). 六價鉻結果為陽性。樣品之鍍層可視為含有六價鉻。 A result expresses as Positive, while not an actual value, which indicates a visual observation was used. 當結果以陽性表示，而非數值時，為使用目測法判定。

Responsibility of Chemist 分析人員 : Andy Yu/ Vita Fu
Responsibility of Lab 實驗室負責人 : Thomas Chou

RoHS Limit RoHS 限值

Restricted Substances 限用物質	Limits 限值
Cadmium (Cd) content 鎘含量	0.01% (100ppm)
Lead (Pb) content 鉛含量	0.1% (1000ppm)
Mercury (Hg) content 汞含量	0.1% (1000ppm)
Chromium VI (Cr(VI)) content 六價鉻含量	0.1% (1000ppm)
Polybrominated Biphenyls (PBBs) 多溴聯苯	0.1% (1000ppm)
Polybrominated Diphenyl Ethers (PBDEs) 多溴聯苯醚	0.1% (1000ppm)
Di(2-ethylhexyl) Phthalate (DEHP) 鄰苯二甲酸二(2-乙基己基)酯	0.1% (1000ppm)
Dibutyl Phthalate (DBP) 鄰苯二甲酸二丁酯	0.1% (1000ppm)
Benzyl Butyl Phthalate (BBP) 鄰苯二甲酸苯基丁酯	0.1% (1000ppm)
Diisobutyl Phthalate (DIBP) 鄰苯二甲酸二異丁酯	0.1% (1000ppm)

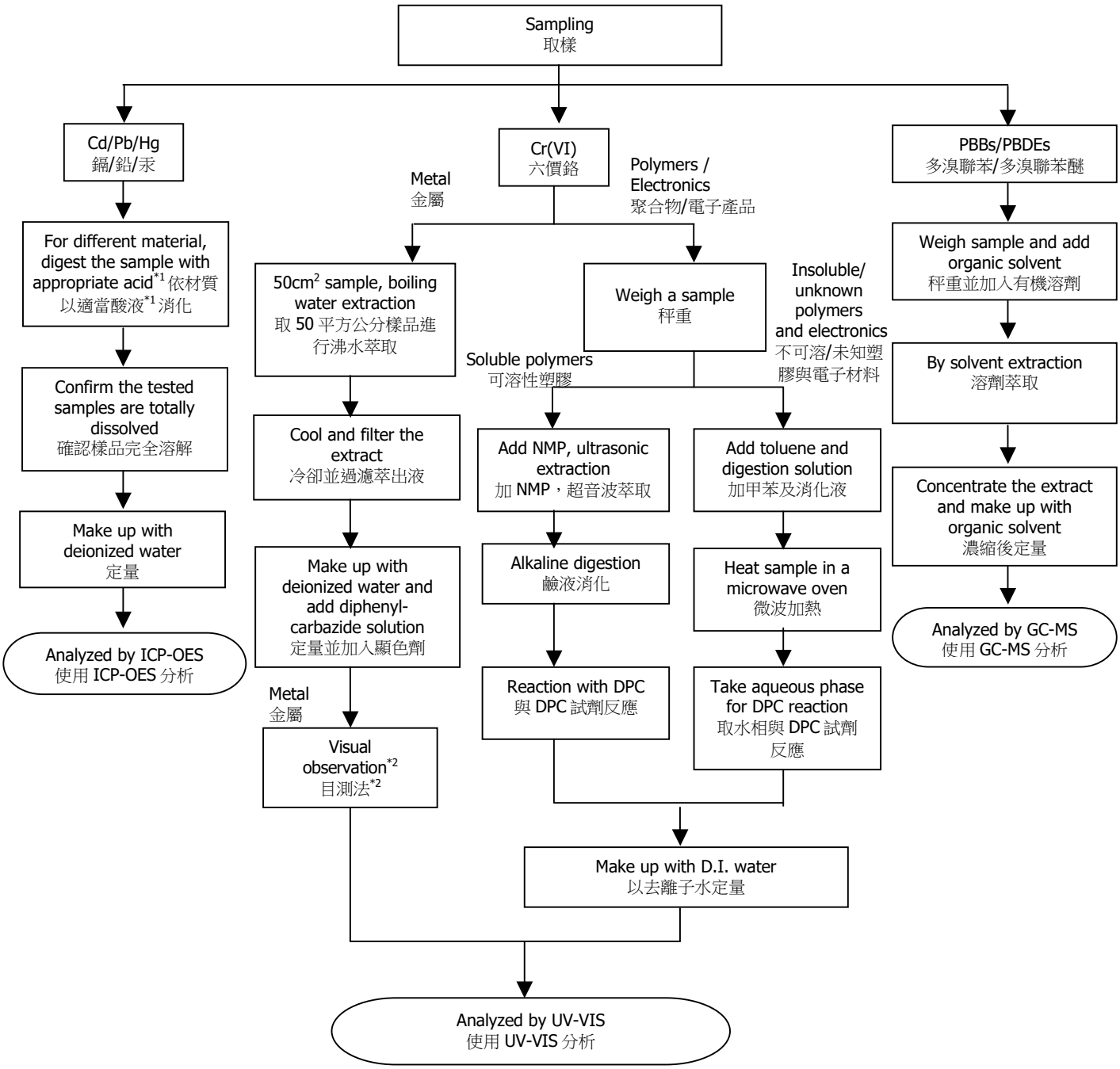
The limits were quoted from Annex II of 2011/65/EU and Amendment (EU) 2015/863 for homogeneous material.
本限值是依據歐盟指令 2011/65/EU 及其更新指令(EU) 2015/863 之附錄二針對均質材質所訂定。

Intertek Testing Services Taiwan Ltd.
全國公證檢驗股份有限公司
8F., No. 423, Ruiguang Rd., Neihu District, Taipei, 114690, Taiwan, R.O.C.
114690 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885
Fax: (+886-2) 6602-2420
www.intertek-twn.com

Test Conducted 測試內容：

Measurement Flowchart 測試流程圖:

Test for Cd/Pb/Hg/Chromium (VI)/PBBs/PBDEs Content RoHS 六項測試
Reference Method 參考方法：Cd/Pb: IEC 62321-5:2013; Hg: IEC 62321-4:2013+AMD1:2017;
Chromium (VI): IEC 62321-7-1:2015 (boiling water extraction);
Chromium (VI): IEC 62321-7-2:2017 (solvent and alkaline extraction);
PBBs/PBDEs: IEC 62321-6:2015



Intertek Testing Services Taiwan Ltd.
全國公證檢驗股份有限公司
8F., No. 423, Ruiguang Rd., Neihu District, Taipei, 114690, Taiwan, R.O.C.
114690 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885
Fax: (+886-2) 6602-2420
www.intertek-twn.com

Test Conducted 測試內容：

Remarks 備註:

*1: List of Appropriate Acid 各材質添加酸液如下表：

Material 材質	Acid Added for Digestion 添加酸液種類
Polymers 聚合物	HNO_3,HCl,HF,H_2O_2,H_3BO_3 硝酸、鹽酸、氫氟酸、雙氧水、硼酸
Metals 金屬	HNO_3,HCl,HF 硝酸、鹽酸、氫氟酸
Electronics 電子產品	HNO_3,HCl,H_2O_2,HBF_4 硝酸、鹽酸、雙氧水、氟硼酸

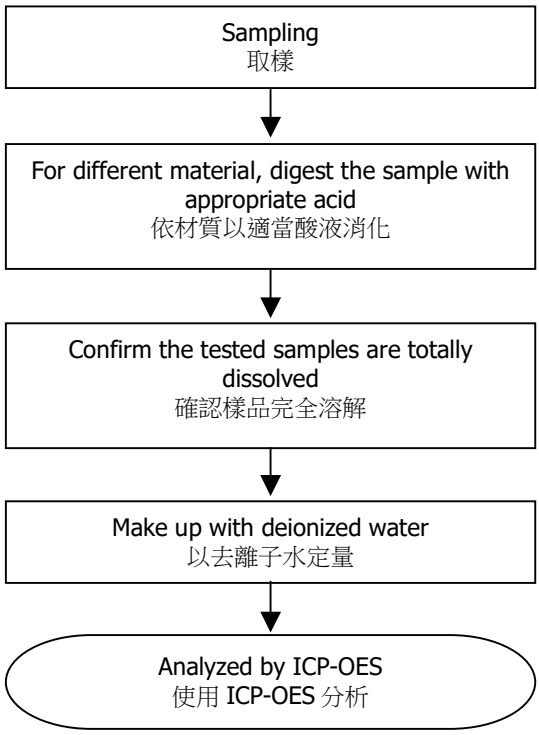
*2: If sample solution is significantly more intense than 0.13 μg/cm^2 equivalent comparison standard, Chromium VI would be determined as detected, the result of visual observation is positive.
當待測樣品溶液顏色明顯比 0.13 μg/cm^2 深，採用目測法判定六價鉻結果為陽性。

Intertek Testing Services Taiwan Ltd.
全國公證檢驗股份有限公司
8F., No. 423, Ruiguang Rd., Neihu District, Taipei, 114690, Taiwan, R.O.C.
114690 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885
Fax: (+886-2) 6602-2420
www.intertek-twn.com

Test Conducted 測試內容：

Measurement Flowchart 測試流程圖:

Test for Heavy Metal (Be,Sb) Content 重金屬(鈹,銻)
Reference Method 參考方法：USEPA 3052

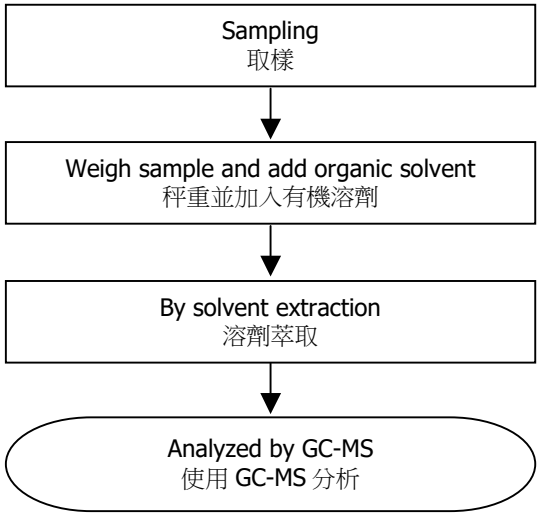


Intertek Testing Services Taiwan Ltd.
全國公證檢驗股份有限公司
8F., No. 423, Ruiguang Rd., Neihu District, Taipei, 114690, Taiwan, R.O.C.
114690 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885
Fax: (+886-2) 6602-2420
www.intertek-twn.com

Test Conducted 測試內容：

Measurement Flowchart 測試流程圖:

Test for Phthalates Content 鄰苯二甲酸酯測試
Reference Method 參考方法: IEC 62321-8:2017

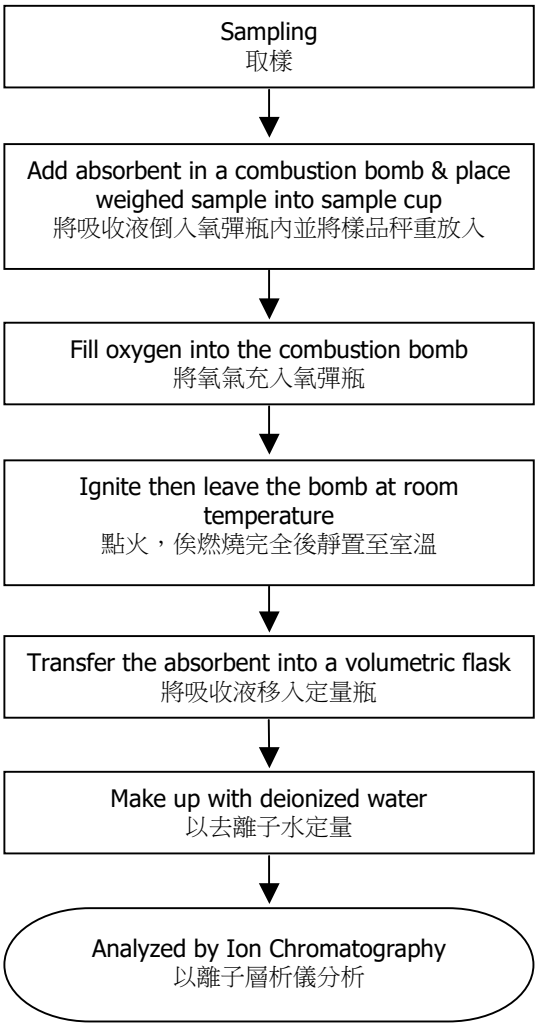


Intertek Testing Services Taiwan Ltd.
全國公證檢驗股份有限公司
8F., No. 423, Ruiguang Rd., Neihu District,
Taipei, 114690, Taiwan, R.O.C.
114690 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885
Fax: (+886-2) 6602-2420
www.intertek-twn.com

Test Conducted 測試內容：

Measurement Flowchart 測試流程圖:

Test for Halogen Content 鹵素測試
Reference Method 參考方法：EN 14582:2016

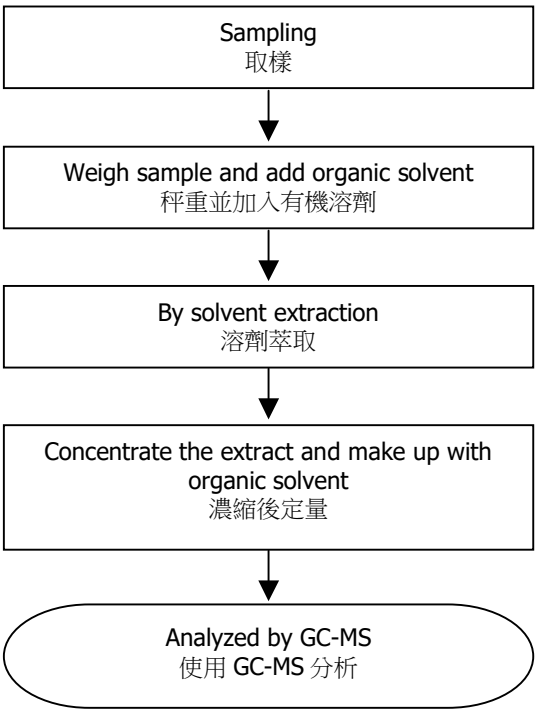


Intertek Testing Services Taiwan Ltd.
全國公證檢驗股份有限公司
8F., No. 423, Ruiguang Rd., Neihu District, Taipei, 114690, Taiwan, R.O.C.
114690 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885
Fax: (+886-2) 6602-2420
www.intertek-twn.com

Test Conducted 測試內容：

Measurement Flowchart 測試流程圖:

Test for Hexabromocyclododecane (HBCDD) 六溴環十二烷測試
Reference Method 參考方法：USEPA 3540C

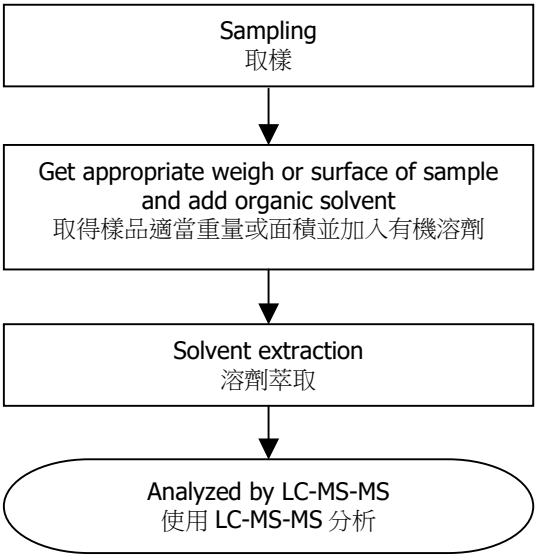


Intertek Testing Services Taiwan Ltd.
全國公證檢驗股份有限公司
8F., No. 423, Ruiguang Rd., Neihu District, Taipei, 114690, Taiwan, R.O.C.
114690 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885
Fax: (+886-2) 6602-2420
www.intertek-twn.com

Test Conducted 測試內容：

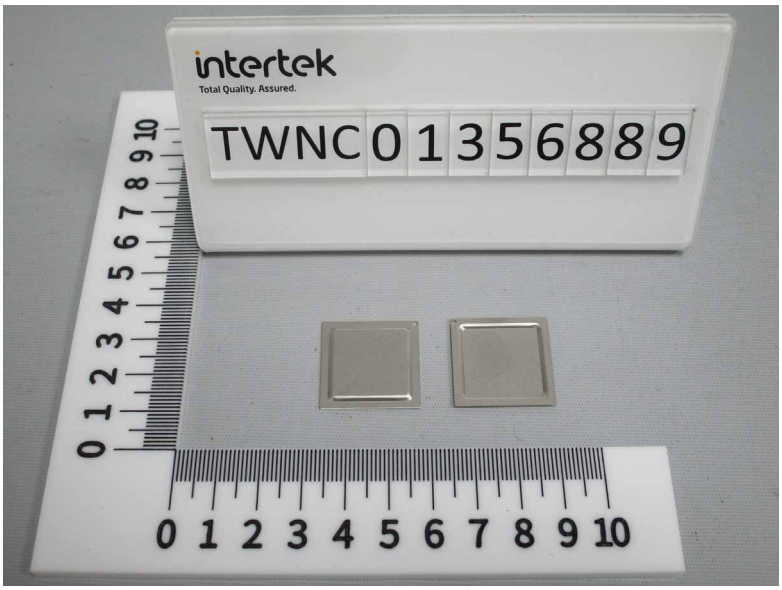
Measurement Flowchart 測試流程圖:

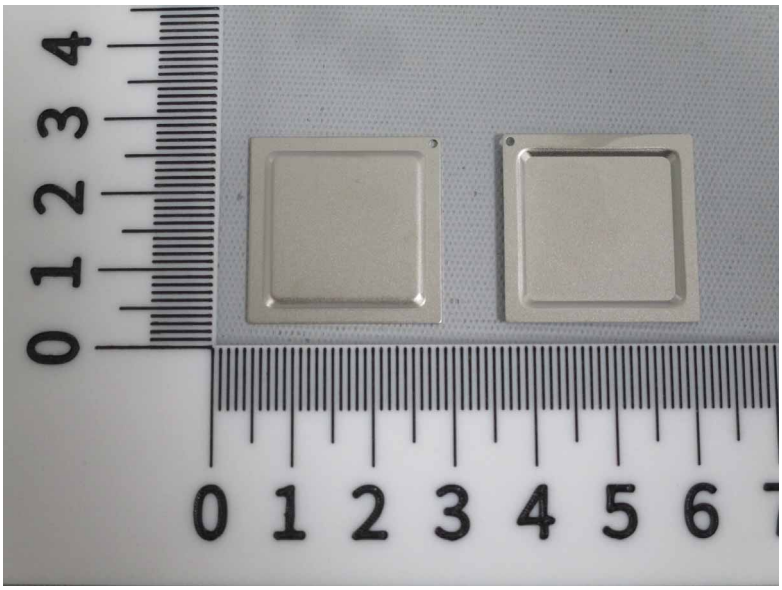
Test for Perfluorooctane Sulfonates (PFOS) / Perfluorooctanoic Acid (PFOA) Content 全氟辛磺酸 /全氟辛酸測試
Reference Method 參考方法：CEN/TS 15968:2010



Intertek Testing Services Taiwan Ltd.
全國公證檢驗股份有限公司
8F., No. 423, Ruiguang Rd., Neihu District, Taipei, 114690, Taiwan, R.O.C.
114690 台北市內湖區瑞光路 423 號 8 樓
Tel: (+886-2) 6602-2888 · 2797-8885
Fax: (+886-2) 6602-2420
www.intertek-twn.com

Sample photo 樣品照片：





End of Report

Intertek Testing Services Taiwan Ltd.
全國公證檢驗股份有限公司

8F., No. 423, Ruiguang Rd., Neihu District,
Taipei, 114690, Taiwan, R.O.C.
114690 台北市內湖區瑞光路 423 號 8 樓

Tel: (+886-2) 6602-2888 · 2797-8885
Fax: (+886-2) 6602-2420
www.intertek-twn.com