

檢測報告
Test Report報告編號 A224054164810100101E
Report No. A224054164810100101E第 1 頁 共 11 頁
Page 1 of 11報告抬頭公司名稱 冠西電子企業股份有限公司
Company Name COSMO ELECTRONICS CORPORATION
shown on Report地址 新北市中和區連城路258號11樓
Address 11F, NO. 258, LIAN CHENG RD., CHUNG-HO DIST, NEW TAIPEI CITY 235, TAIWAN, R.O.C以下測試之樣品及樣品資訊由申請者提供並確認
The following sample(s) and sample information was/were submitted and identified by/on the behalf of the applicant樣品名稱 PHOTO COUPLER/POWER PHOTO TRIAC/SSR-MOSFET OUTPUT
Sample Name PHOTO COUPLER/POWER PHOTO TRIAC/SSR-MOSFET OUTPUT樣品接收日期 2024.09.04
Sample Received Date Sep. 4, 2024樣品檢測日期 2024.09.04-2024.09.12
Testing Period Sep. 4, 2024 to Sep. 12, 2024

檢測要求 根據客戶要求, 對所提交樣品中的鉛(Pb), 鎘(Cd), 汞(Hg), 六價鉻(Cr(VI)), 多溴聯苯(PBBs), 多溴二苯醚(PBDEs), 鄰苯二甲酸酯(DBP, BBP, DEHP, DIBP), 全氟辛烷磺酸鹽(PFOS)及其相關物質, 全氟辛酸類(PFOA) 相關物質及其鹽進行測試。

Test Requested As specified by client, to test Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium (Cr(VI)), Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs), Phthalates (DBP, BBP, DEHP, DIBP), PFOS and Related Substances, Perfluorooctanoic acid related substances and Its Salts in the submitted sample(s).

檢測依據/檢測結果 請參見下頁。
Test Method/Test Result(s) Please refer to the following page(s).

馮智聰

馮智聰

實驗室經理 Laboratory Manager

日期 2024.09.13
Date

No. R556661587

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檢測依據 Test Method

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測試項目 Test Item(s)	測試方法 Test Method	測試儀器 Measured Equipment(s)
鉛 Lead (Pb)	IEC 62321-5:2013	ICP-OES
鎘 Cadmium (Cd)	IEC 62321-5:2013	ICP-OES
汞 Mercury (Hg)	IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
六價鉻 Hexavalent Chromium(Cr(VI))	IEC 62321-7-2:2017	UV-Vis
	IEC 62321-7-1:2015	UV-Vis
多溴聯苯 Polybrominated Biphenyls (PBBs)	IEC 62321-6:2015	GC-MS
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
鄰苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS
全氟辛烷磺酸及全氟辛酸物質 Perfluorooctane sulfonates and Perfluorooctanoic acid substances (PFOS & PFOA)	參考DIN CEN/TS 15968:2010 Refer to DIN CEN/TS 15968:2010	LC-MS-MS

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檢測結果 Test Result(s)

測試項目 Tested Item(s)	結果 Result		方法檢出限 MDL
	001	002	
鉛 Lead (Pb)	N.D.	N.D.	2 mg/kg
鎘 Cadmium (Cd)	N.D.	N.D.	2 mg/kg
汞 Mercury (Hg)	N.D.	N.D.	2 mg/kg
六價鉻 Hexavalent Chromium (Cr(VI))	N.D.	-	8 mg/kg
	-	N.D.▼	0.10 µg/cm ² (LOQ)
測試項目 Tested Item(s)	結果 Result		方法檢出限 MDL
	001		
多溴聯苯 Polybrominated Biphenyls (PBBs)			
一溴聯苯 Monobromobiphenyl	N.D.		5 mg/kg
二溴聯苯 Dibromobiphenyl	N.D.		5 mg/kg
三溴聯苯 Tribromobiphenyl	N.D.		5 mg/kg
四溴聯苯 Tetrabromobiphenyl	N.D.		5 mg/kg
五溴聯苯 Pentabromobiphenyl	N.D.		5 mg/kg
六溴聯苯 Hexabromobiphenyl	N.D.		5 mg/kg
七溴聯苯 Heptabromobiphenyl	N.D.		5 mg/kg
八溴聯苯 Octabromobiphenyl	N.D.		5 mg/kg
九溴聯苯 Nonabromobiphenyl	N.D.		5 mg/kg
十溴聯苯 Decabromobiphenyl	N.D.		5 mg/kg
測試項目 Tested Item(s)	結果 Result		方法檢出限 MDL
	001		
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)			
一溴二苯醚 Monobromodiphenyl ether	N.D.		5 mg/kg
二溴二苯醚 Dibromodiphenyl ether	N.D.		5 mg/kg
三溴二苯醚 Tribromodiphenyl ether	N.D.		5 mg/kg
四溴二苯醚 Tetrabromodiphenyl ether	N.D.		5 mg/kg
五溴二苯醚 Pentabromodiphenyl ether	N.D.		5 mg/kg
六溴二苯醚 Hexabromodiphenyl ether	N.D.		5 mg/kg
七溴二苯醚 Heptabromodiphenyl ether	N.D.		5 mg/kg
八溴二苯醚 Octabromodiphenyl ether	N.D.		5 mg/kg
九溴二苯醚 Nonabromodiphenyl ether	N.D.		5 mg/kg
十溴二苯醚 Decabromodiphenyl ether	N.D.		5 mg/kg

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檢測結果 Test Result(s)

測試項目 Tested Item(s)	結果 Result	方法檢出限 MDL
	001	
鄰苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)		
鄰苯二甲酸丁基苄基酯 Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	50 mg/kg
鄰苯二甲酸二(2-乙基)己酯 Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	50 mg/kg
鄰苯二甲酸二丁酯 Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	50 mg/kg
鄰苯二甲酸二異丁酯 Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	50 mg/kg

測試項目 Tested Item(s)	CAS No.	結果 Result	方法檢出限 MDL
		001	
全氟辛基磺酸 Perfluorooctanesulfonic acid (PFOS)	1763-23-1	N.D.	0.01 mg/kg
氟蟲胺 N-Ethylperfluoro-1-octanesulfonamide (N-Et-FOSA)	4151-50-2	N.D.	0.05 mg/kg
1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-十七氟-N-甲基-辛磺醯胺 N-Methylperfluoro-1-octanesulfonamide (N-Me-FOSA)	31506-32-8	N.D.	0.05 mg/kg
N-乙基全氟辛基磺醯胺乙醇 2-(N-Ethylperfluoro-1-octanesulfonamido)-ethanol (N-Et-FOSE)	1691-99-2	N.D.	0.05 mg/kg
1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-十七氟-N-(2-羥乙基)-N-甲基-1-辛基磺醯胺 2-(N-Methylperfluoro-1-octanesulfonamido)-ethanol (N-Me-FOSE)	24448-09-7	N.D.	0.05 mg/kg
全氟辛酸 Perfluorooctanoic Acid (PFOA)	335-67-1	N.D.	0.01 mg/kg
全氟辛烷磺醯胺 Perfluorooctane sulfonamide (PFOSA)	754-91-6	N.D.	0.01 mg/kg

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全氟辛烷磺酸和全氟辛酸清單 List of Perfluorooctanesulfonic acid and Perfluorooctanoic acid

物質名稱 Substance Name(s)	CAS No.
全氟辛烷磺酸 Perfluorooctanesulfonic acid(PFOS)	
全氟辛烷磺酸鉀 Perfluorooctanesulfonic acid, potassium salt	2795-39-3
全氟辛烷磺酸鋰 Perfluorooctanesulfonic acid, lithium salt	29457-72-5
全氟辛烷磺酸銨 Perfluorooctanesulfonic acid, ammonium salt	29081-56-9
全氟辛烷磺酸二乙醇銨 Perfluorooctane sulfonate diethanolamine salt	70225-14-8
全氟辛烷磺酸四乙基銨 Perfluorooctanesulfonic acid, tetraethylammonium salt	56773-42-3
全氟辛烷磺酸二癸二甲基銨 Didecyl dimethyl ammonium perfluorooctane sulfonate	251099-16-8
全氟辛烷磺酰氟 Perfluoro-1-octanesulfonyl fluoride	307-35-7
全氟辛烷磺酸鈉 Sodium perfluorooctane sulfonate	4021-47-0
全氟辛烷磺酸鎂 1-Octanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptafluoro-, magnesium salt (2:1)	91036-71-4
全氟辛基磺酸哌啶 Piperidine 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8 heptafluorooctanesulfonate	71463-74-6
全氟辛酸 Perfluorooctanoic acid(PFOA)	
全氟辛酸銨 Ammonium pentafluorooctanoate	3825-26-1
全氟辛酸鈉 Sodium perfluorooctanoate	335-95-5
全氟辛酸鉀 Potassium perfluorooctanoate	2395-00-8
全氟辛酸銀 Silver perfluorooctanoate	335-93-3
全氟辛氟 Perfluorooctanoyl fluoride	335-66-0

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樣品/部位描述 Sample/Part Description

序號	CTI樣品ID	描述
No.	CTI Sample ID	Description
1	001	電子元器件(整體混合測試)* Electronic components (Mixed all)
2	002	金屬引腳 Metal pin

備註: 對於檢測鉛, 鎘, 汞之樣品已消解完全。
-N.D. = 未檢出 (小於方法檢出限)
-mg/kg = ppm = 百萬分之一
-LOQ = 定量限, 六價鉻的定量限為0.10 $\mu\text{g}/\text{cm}^2$ 。
-▼濃度小於0.10 $\mu\text{g}/\text{cm}^2$, 樣品未檢出六價鉻。由於未獲知樣品的存儲條件和生產日期, 樣品的六價鉻測試結果僅能代表測試時樣品含六價鉻的狀態。
-*=根據客戶要求, 對樣品進行整體混合測試, 測試結果不代表樣品中任何一種單一材質的含量。
-本報告中樣品測試結果引自於報告 A2240541648101001E。

Remark: **The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.**
-MDL = Method Detection Limit
-N.D. = Not Detected (<MDL)
-mg/kg = ppm = parts per million
-LOQ = Limit of Quantification, The LOQ of Hexavalent chromium is 0.10 $\mu\text{g}/\text{cm}^2$
-▼The sample is negative for Cr(VI) – The Cr(VI) concentration is below 0.10 $\mu\text{g}/\text{cm}^2$.
The coating is considered a non-Cr(VI) based coating. Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.
-*=As specified by client, the test was conducted by mixing all materials together.
The result(s) shown on this report may be different from the content of any homogeneous material.
-The test result(s) of sample is(are) presented in reference to the result(s) that reported in No. A2240541648101001E.

注釋: 本報告中的資料結果供科研、教學、企業內部品質控制、企業產品研發等目的用。
Note: **The testing data and result(s) in this report is(are) just for scientific research, education, internal quality control and product development etc.**

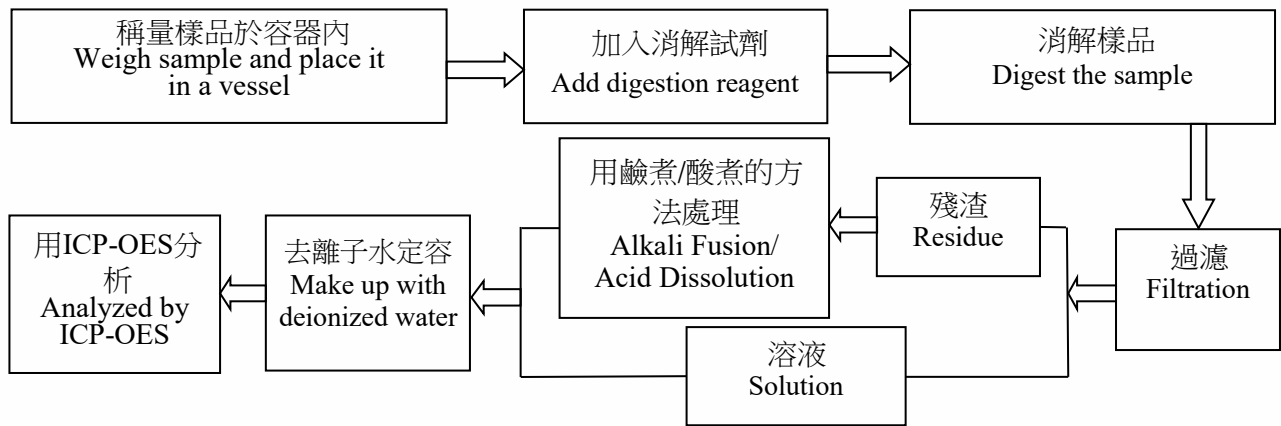
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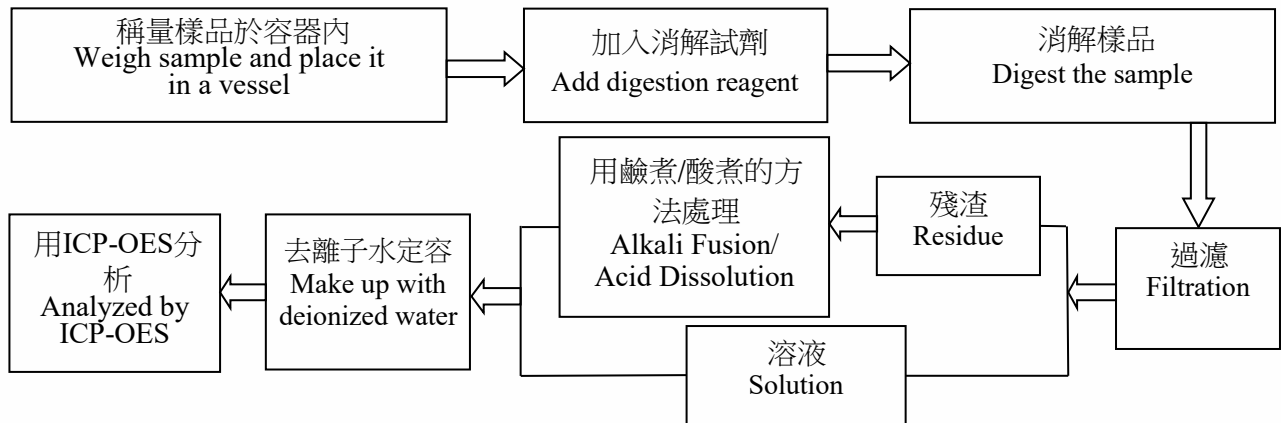
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檢測流程 Test Process

1. 鉛(Pb), 鎘(Cd) Lead (Pb), Cadmium (Cd)



2. 汞(Hg) Mercury (Hg)



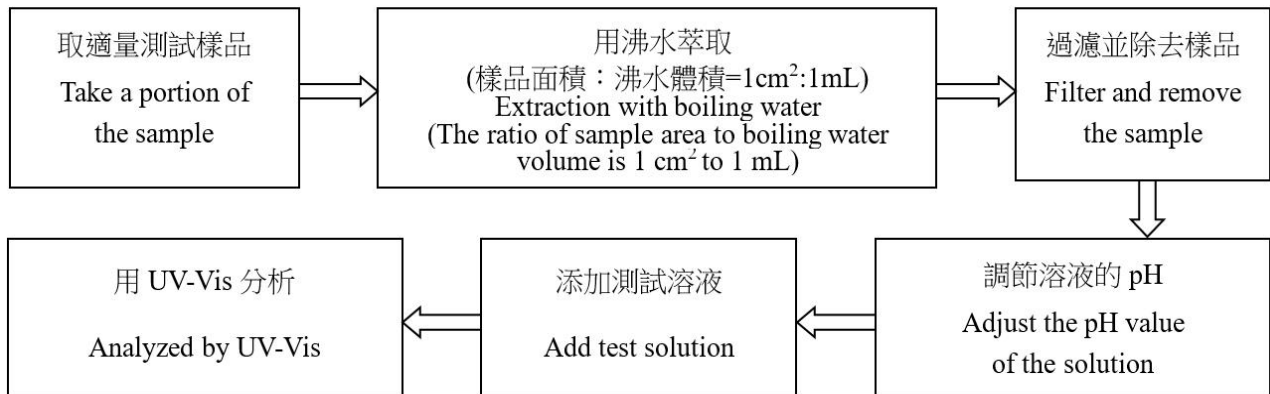
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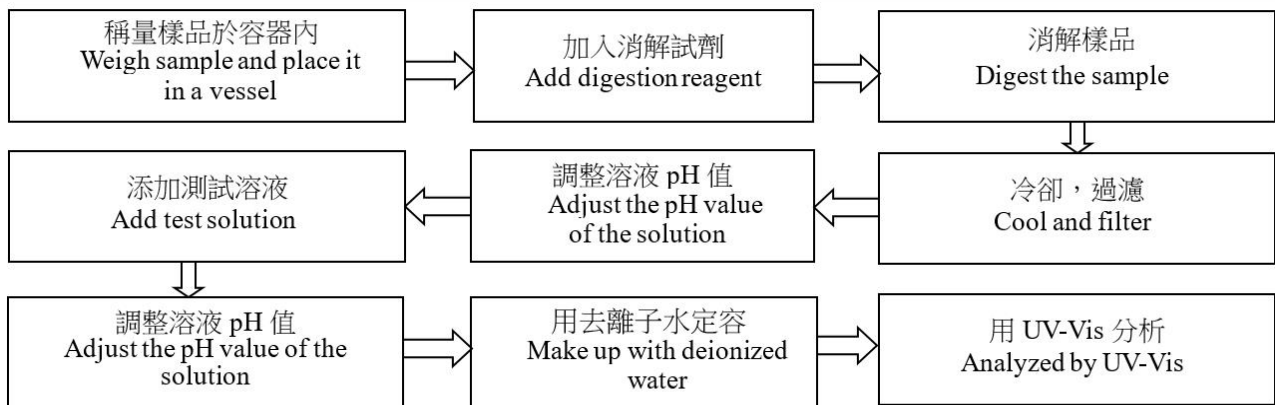
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3. 六價鉻 Hexavalent Chromium (Cr(VI))

(1) IEC 62321-7-1:2015



(2) IEC 62321-7-2:2017



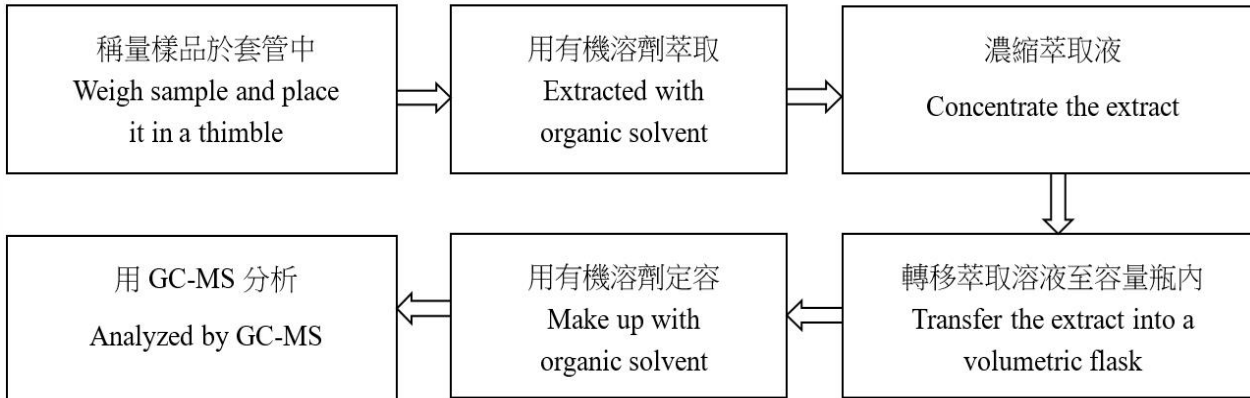
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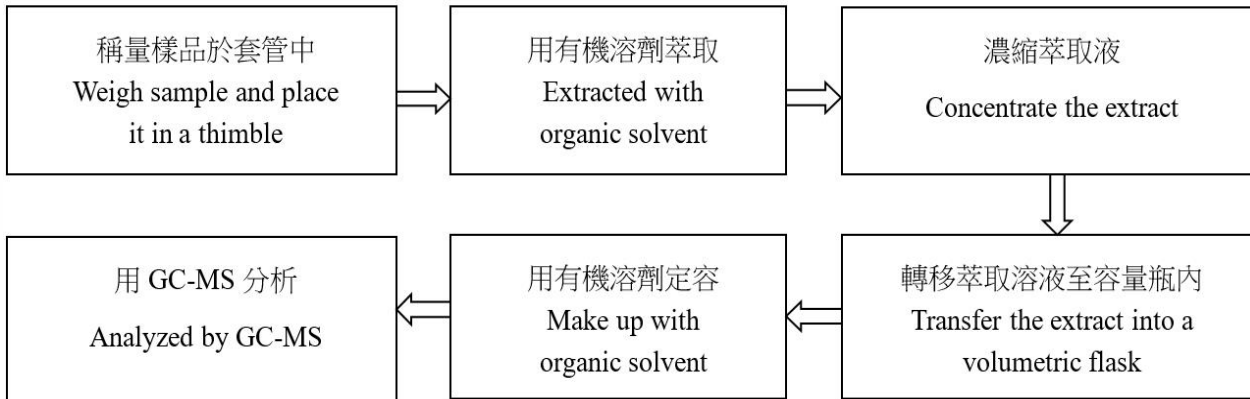
4. 多溴聯苯(PBBs), 多溴二苯醚(PBDEs)

Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs)



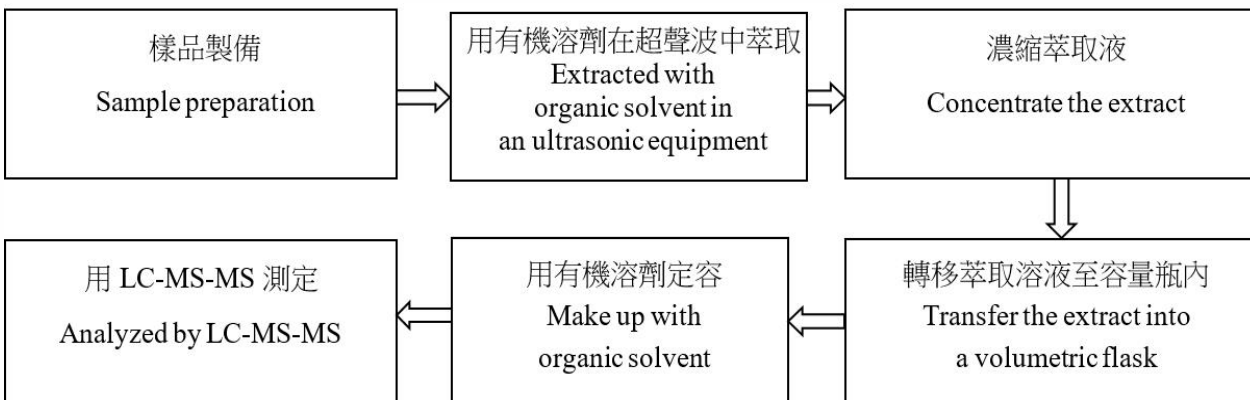
5. 鄰苯二甲酸酯(DBP, BBP, DEHP, DIBP)

Phthalates (DBP, BBP, DEHP, DIBP)



6. 全氟辛酸類(PFOA)相關物質及其鹽, 全氟辛烷磺酸鹽(PFOS)及其相關物質

Perfluorooctanoic acid related substances and Its Salts, PFOS and Related Substances



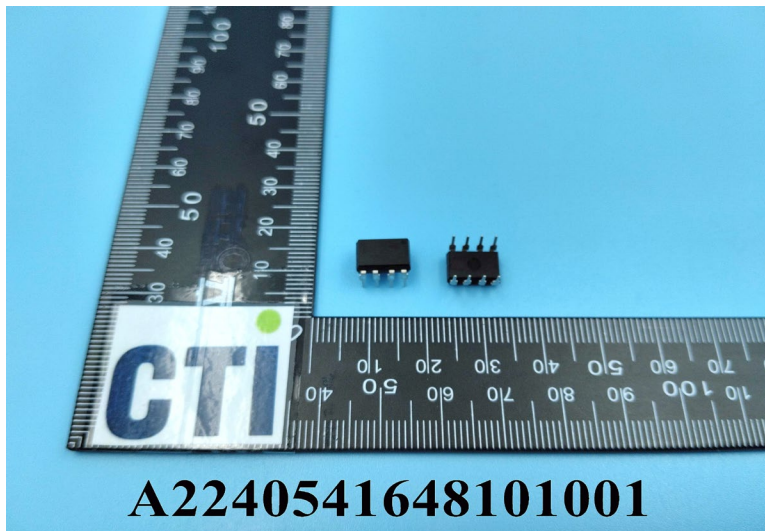
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樣品圖片 Photo(s) of the sample(s)

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1. 檢測報告無批准人簽字、“專用章”及報告騎縫章無效；
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報告結束
*** End of report ***

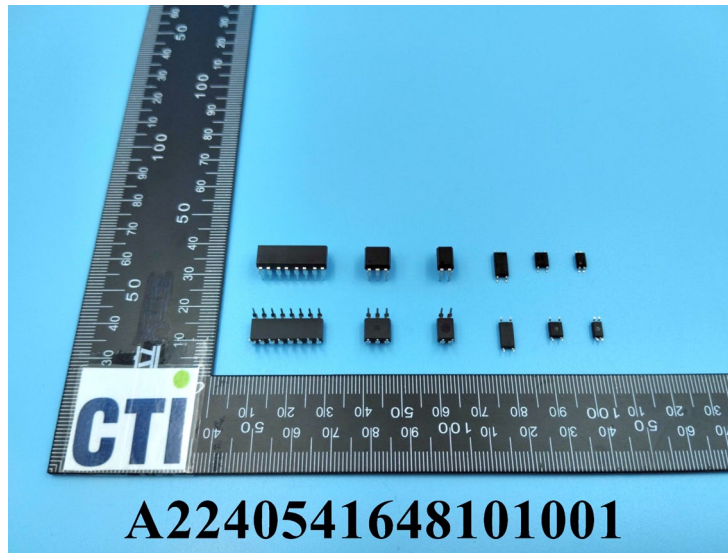
附錄Appendix

客戶參考資訊Client Reference Information

K/KP/KT/KPC/KPS/KCP/KMOC/KTLP/KAQ SERIES

客戶參考圖片（非測試樣品）Client Reference Photo(Non-tested sample)

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2. 附錄內容為A224054164810100101E報告的補充。
The Appendix Information is/are the supplement(s) for the Report A224054164810100101E.