寶	號
CUST	OMER

MARITEX

HF ROHS COMPLIANT

DATE.

承認書

SPECIFICATION FOR APPROVAL

Customer Approved Status 客戶承認範圍

FULLY APPROVED	PARTILLY APPROVED	REVISE APPROVED
(全部承認)	(部份承認)	(修訂承認)
Drawn by	Checked by	Approved by
海 罗 联	吴明珠	莫炳勳



KING CORE ELECTRONICS INC.

NO 269, Nanfong Rd., Pingjhen City, Taoyuan County Taiwan

Tel: 886-3-4698855 Fax: 886-3-4691395 Web site: http://www.kingcore.com.tw

E-mail: kc@mail.kingcore.com.tw

承認書內容 CONTENTS

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2. 目錄 INDEX	2						
3. 修訂履歷 REVISION RESUME	3. 修訂履歷 REVISION RESUME						
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7. 阻抗曲線圖 ELECTRICAL CHAR	RACTERISTICS CURVE	6					
8. SGS 測試報告 SGS REPORT		7-18					
製作 DRAWN BY: 漢要 	確認 CHECKED BY: 美丽泽	承認 APPF	ROVED BY: 美炳勲				

修訂履歷 REVISION RESUME

日期 DATE	版次 VERSION		丁目的 RPOSE	修訂內容 REVISION DES		備註 REMARK
2017/01/06	А	首次送加	承認書 RELEASE			
		INTIAL	VLLLASE			
製作 DRAWN I	BY: 要	1	確認 CHECK	ED BY: 美丽译	承認 APPROVED B	Y: 丙動

SPECIFICATION FOR APPROVAL

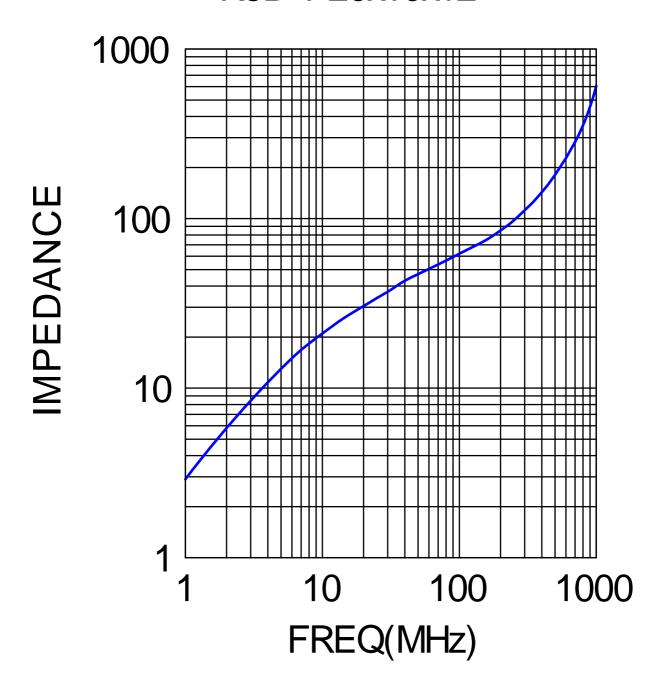
CUSTOMER:	MARITEX			CU	ST.P/N:		
ORDERING CODE:	K5B T 20x10x12			K.C	C.P/N: PX	2011IA	
(1) SHAPE:				A	20.0±0.6		mm
				В	10.0±0.4		mm
	l ∕−øc			С	12.0±0.4		mm
(-							
		/					
 		<u>- B - </u>					
C角							
	REQUIREMENTS:			, ,		NDITIONS	
	OHM AT 25	MHz				ALYZER: Ag	ilent E4991A
Z_2 = 51 min	OHM AT 100) MHz		TE	EST FIXTURI	E: HP	16092A
						C.Wx63mm x	1/2Ts
				3.DR/	AWING:		
							1
					-	23	20
(4)PACKING				(5) <i>A</i>	APPEARA	NCE	
IN BU	LK X VACUUM		NSERTION		(1)AREA OF BI	REAK :	$<4 \text{ mm}^2$
PCS/BAG*	BAGS/INNER BOX'	BOXES/CARTON =	PCS		(2)SUM OF BR	EAKING AREA	:<5 mm ²
84 PCS/PLATE* 10	PLATES/CARTON= 840	PCS			(3)DEPTH OI	F BREAK	:<1 mm
PCS/TRAY*	TRAYS/CARTON=	PCS					
(6)DEMADY.				Λ 101	amorrod larr	美炳	
(6)REMARK:					proved by	吴明禄	
					ecked by	· · · · · · · · · · · · · · · · · · ·	2017/1/
					wn by		2017/1/6
				שע	/G.NO.	201710012	1

TEST DATA FOR PREPRODUCTION SAMPLES

CUSTOMER	MARITEX		CUST. P/N			
ORDERING CODE	K5	B T 20x10x	12	K.C. P/N	PX2011IA	
TEMP.	24 °C	RH	69 %	DWG.NO.	20171001A	1
WIRE	0.65x63mm T.C.W	WINDING	1/2 Ts	Q'TY	5PCS	
Test Instrument	S					
Meas. Item.	Z (OHM)	Z (OHM)	A mm	B mm	C mm	
Specification	28 min	51 min	20.0±0.6	10.0±0.4	12.0±0.4	
Test Freq.	25 MHz	100 MHz				
sample#1	34	62	20.13	10.06	12.03	
sample#2	33	60	20.14	10.16	12.01	
sample#3	34	61	20.14	10.07	12.06	
sample#4	34	62	20.11	10.01	12.01	
sample#5	33	62	20.12	10.12	11.99	
sample#6						
sample#7						
sample#8						
sample#9						
sample#10						
X	33.6	61.4	20.13	10.08	12.02	
R	1	2	0.03	0.15	0.07	
REMARK:			l		Approved by:	美炳
					Checked by:	吴明珠
					Drawn by:	薄要
						保文队

KING CORE ELECTRONICS INC.

K5B T 20x10x12





Test Report

頁數(Page): 1 of 12

日期(Date): 2016/03/31

鈞寶電子工業股份有限公司 KING CORE ELECTRONICS INC.

桃園市平鎮區南豐路269號(平鎮工業區)

NO. 269, NANFONG RD., PINGZHEN DIST., TAOYUAN CITY 324-59, 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/on behalf of the applicant as):

送樣廠商(Sample Submitted By) 鈞寶電子工業股份有限公司 (KING CORE ELECTRONICS INC.)

號碼(No.): CE/2016/37739

樣品名稱(Sample Description) FERRITE CORE

樣品型號(Style/Item No.) K5B

收件日期(Sample Receiving Date) 2016/03/28

2016/03/28 TO 2016/03/31 測試期間(Testing Period)

測試需求(Test Requested):

(1) 依據客戶指定,參考RoHS2011/65/EU Annex II及其修訂指令(EU) 2015/863測試編、鉛、汞、六價鉻、多溴聯苯、多溴聯苯 柱, 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, DEHP, DIBP contents in the submitted sample.)

(2) 其他測試項目請見下一頁 . (Please refer to next pages for the other item(s).)

請見下一頁 (Please refer to next pages). 測試結果(Test Results) :

結論(Conclusion) :

(1) 根據客戶所提供的樣品,其鎬、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指令暨(EU) 2015/863之限值要求. (Based on the performed tests on submitted samples, the test results of Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP comply with the limits as set by RoHS and amending Directive (EU)

2015/863.)

Troy Chang[†]∖Managei Signed for and on behalf SGS TAIWAN LTD

Chemical Laboratory - Taipei

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Test Report

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號碼(No.): CE/2016/37739

頁數(Page): 2 of 12

測試結果(Test Results)

測試部位(PART NAME)No.1 : FERRITE CORE

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) No.1	限值 (Limit)
鎬 / Cadmium (Cd)	mg/kg	参考IEC 62321-5 (2013),以感應耦合 電漿原子發射光譜儀檢測. / With	2	n. d.	100
鉛 / Lead (Pb)	mg/kg	reference to IEC 62321-5 (2013) and performed by ICP-AES.	2	n. d.	1000
汞 / Mercury (Hg)	mg/kg	参考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.	1000
六價鉻 / Hexavalent Chromium Cr(VI)	mg/kg	参考IEC 62321 (2008),以UV-VIS檢 測. / With reference to IEC 62321 (2008) and performed by UV-VIS.	2	n. d.	1000
多溴聯苯總和 / Sum of PBBs	mg/kg		-	n. d.	1000
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	参考IEC 62321-6 (2015),以氣相層析	5	n. d.	-
五溴聯苯 / Pentabromobiphenyl	mg/kg	/質譜儀檢測. / With reference to	5	n. d.	-
六溴聯苯 / Hexabromobiphenyl	mg/kg	IEC 62321-6 (2015) and performed by GC/MS.	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.	-

日期(Date): 2016/03/31



Test Report

鈞寶電子工業股份有限公司 KING CORE ELECTRONICS INC. 桃園市平鎮區南豐路269號(平鎮工業區) NO. 269, NANFONG RD., PINGZHEN DIST., TAOYUAN CITY 324-59, TAIWAN

號碼(No.): CE/2016/37739

頁數(Page): 3 of 12

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) No.1	限值 (Limit)
多溴聯苯醚總和 / Sum of PBDEs	mg/kg		-	n. d.	1000
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	參考IEC 62321-6 (2015),以氣相層析	5	n. d.	-
五溴聯苯醚 / Pentabromodiphenyl ether	mg/kg	/質譜儀檢測. / With reference to	5	n. d.	-
六溴聯苯醚 / Hexabromodiphenyl ether	mg/kg	IEC 62321-6 (2015) and performed by GC/MS.	5	n. d.	-
七溴聯苯醚 / Heptabromodiphenyl ether	mg/kg	by Ge/ Mo.	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.	-
鄰苯二甲酸丁苯甲酯 / BBP (Butyl Benzyl phthalate) (CAS No.: 85-68-7)	mg/kg		50	n. d.	1000
鄰苯二甲酸二丁酯 / DBP (Dibutyl phthalate) (CAS No.: 84-74-2)	mg/kg	参考IEC 62321-8/CD (2013),以氣相 層析儀/質譜儀檢測. / With	50	n. d.	1000
鄰苯二甲酸二異丁酯 / DIBP (Di-isobutyl phthalate) (CAS No.: 84-69-5)	mg/kg	reference to IEC 62321-8/CD (2013). Analysis was performed by GC/MS.	50	n. d.	1000
鄰苯二甲酸二 (2-乙基己基)酯 / DEHP (Di- (2-ethylhexyl) phthalate) (CAS No.: 117-81-7)	mg/kg		50	n. d.	1000
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/質譜儀檢測. / With reference to IEC 62321 (2008). Analysis was performed by GC/MS.	5	n. d.	-

日期(Date): 2016/03/31



Test Report

號碼(No.): CE/2016/37739 日期(Date): 2016/03/31 頁數(Page): 4 of 12

鈞寶電子工業股份有限公司 KING CORE ELECTRONICS INC.

桃園市平鎮區南豐路269號(平鎮工業區)

NO. 269, NANFONG RD., PINGZHEN DIST., TAOYUAN CITY 324-59, TAIWAN

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) No.1	限值 (Limit)
鹵素 / Halogen					
鹵素(氟)/ Halogen-Fluorine (F) (CAS No.: 14762-94-8)	mg/kg		50	n. d.	-
鹵素 (氣) / Halogen-Chlorine (C1) (CAS No.: 22537-15-1)	mg/kg	参考BS EN 14582 (2007),以離子層析 儀分析. / With reference to BS EN	50	n. d.	-
鹵素(溴)/ Halogen-Bromine (Br) (CAS No.: 10097-32-2)	mg/kg	14582 (2007). Analysis was performed by IC.	50	n. d.	-
鹵素 (碘) / Halogen-Iodine (I) (CAS No.: 14362-44-8)	mg/kg		50	n. d.	-
全氟辛烷磺酸 / Perfluorooctane sulfonates (PFOS-Acid, Metal Salt, Amide)	mg/kg	参考US EPA 3550C (2007),以液相層析/質譜儀檢測. / With reference to US EPA 3550C (2007). Analysis was	10	n. d.	-
全氟辛酸 / PFOA (CAS No.: 335-67-1)	mg/kg	performed by LC/MS.	10	n. d.	-
砷 / Arsenic (As)	mg/kg	参考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.	-

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)

PFOS参考資訊(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lug/m²。

(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 $1\mu g/m^2$.)

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Test Report

鈞寶電子工業股份有限公司

KING CORE ELECTRONICS INC.

桃園市平鎮區南豐路269號(平鎮工業區)

NO. 269, NANFONG RD., PINGZHEN DIST., TAOYUAN CITY 324-59, TAIWAN

號碼(No.): CE/2016/37739

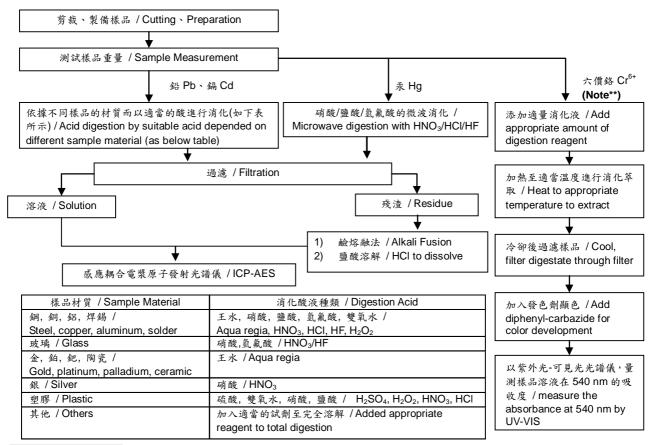
頁數(Page): 5 of 12

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)

日期(Date): 2016/03/31

- 測試人員:楊登偉 / Technician: Climbgreat Yang
- 測試負責人:張啟興 / Supervisor: Troy Chang



Note** (For IEC 62321)

- (1) 針對非金屬材料加入鹼性消化液,加熱至 90~95℃ 萃取. / For non-metallic material, add alkaline digestion reagent and heat to 90~95°C
- (2) 針對金屬材料加入純水,加熱至沸騰萃取. / For metallic material, add pure water and heat to boiling.



Test Report

鈞寶電子工業股份有限公司 KING CORE ELECTRONICS INC. 桃園市平鎮區南豐路269號(平鎮工業區) NO. 269, NANFONG RD., PINGZHEN DIST., TAOYUAN CITY 324-59, TAIWAN 頁數(Page): 6 of 12

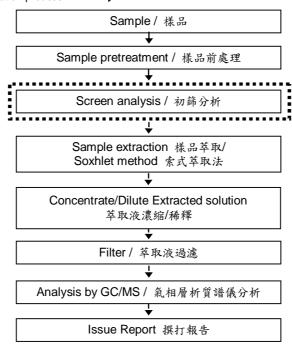
多溴聯苯/多溴聯苯醚分析流程圖 / Analytical flow chart - PBB/PBDE

日期(Date): 2016/03/31

■ 測試人員:翁賜彬 / Technician: Roman Wong 測試負責人:張啟興 / Supervisor: Troy Chang

號碼(No.): CE/2016/37739

初次測試程序 / First testing process -選擇性篩檢程序 / Optional screen process •••••• 確認程序 / Confirmation process - - - - →





Test Report

鈞寶電子工業股份有限公司 KING CORE ELECTRONICS INC. 桃園市平鎮區南豐路269號(平鎮工業區) NO. 269, NANFONG RD., PINGZHEN DIST., TAOYUAN CITY 324-59, TAIWAN

號碼(No.): CE/2016/37739

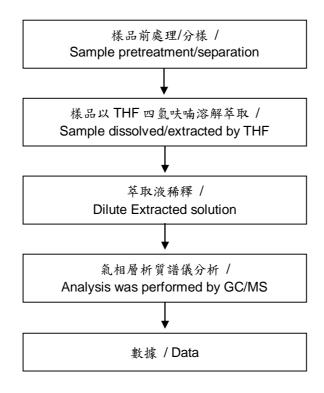
頁數(Page): 7 of 12

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

日期(Date): 2016/03/31

- 測試人員:徐毓明 / Technician: Andy Shu
- 測試負責人:張啟興 / Supervisor nt: Troy Chang

【測試方法/Test method: IEC 62321-8】





Test Report

鈞寶電子工業股份有限公司 KING CORE ELECTRONICS INC. 桃園市平鎮區南豐路269號(平鎮工業區) NO. 269, NANFONG RD., PINGZHEN DIST., TAOYUAN CITY 324-59, TAIWAN

號碼(No.): CE/2016/37739

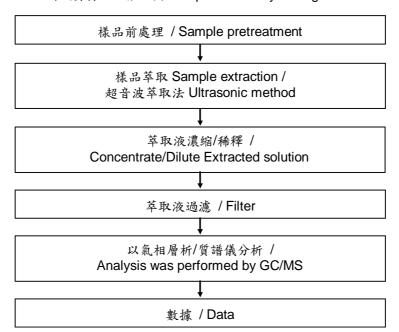


頁數(Page): 8 of 12

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

日期(Date): 2016/03/31

測試人員: 翁賜彬 / Technician: Roman Wong 測試負責人:張啟興 / Supervisor: Troy Chang





Test Report

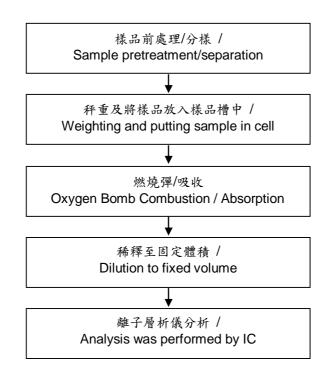
鈞寶電子工業股份有限公司 KING CORE ELECTRONICS INC. 桃園市平鎮區南豐路269號(平鎮工業區) NO. 269, NANFONG RD., PINGZHEN DIST., TAOYUAN CITY 324-59, TAIWAN 頁數(Page): 9 of 12

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

日期(Date): 2016/03/31

測試人員: 陳恩臻 / Technician: Rita Chen 測試負責人:張啟興 / Supervisor: Troy Chang

號碼(No.): CE/2016/37739





Test Report

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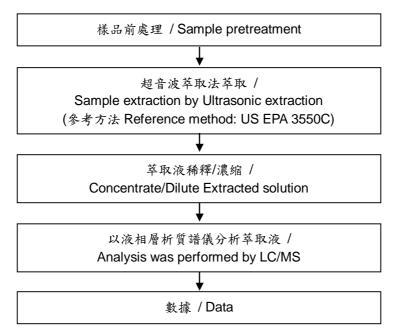
頁數(Page): 10 of 12

全氟辛酸/全氟辛烷磺酸分析流程圖 / Analytical flow chart - PFOA/PFOS

日期(Date): 2016/03/31

測試人員:翁賜彬 / Technician: Roman Wong 測試負責人:張啟興 / Supervisor: Troy Chang

號碼(No.): CE/2016/37739





Test Report

號碼(No.): CE/2016/37739 日期(Date): 2016/03/31 頁數(Page): 11 of 12

鈞寶電子工業股份有限公司 KING CORE ELECTRONICS INC.

桃園市平鎮區南豐路269號(平鎮工業區)

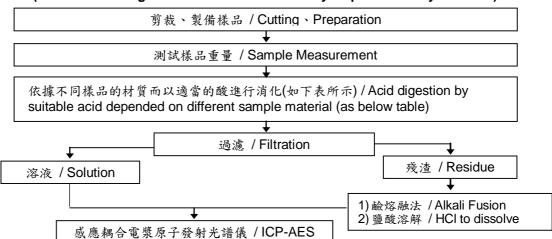
NO. 269, NANFONG RD., PINGZHEN DIST., TAOYUAN CITY 324-59, TAIWAN

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.

測試人員:楊登偉 / Technician: Climbgreat Yang

測試負責人:張啟興 / Supervisor: Troy Chang

元素以 ICP-AES 分析的消化流程圖 (Flow Chart of digestion for the elements analysis performed by ICP-AES)



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,鲍,陶瓷 / Gold, platinum, palladium, ceramic	王水 / Aqua regia
銀 / Silver	硝酸 / HNO ₃
塑膠 / Plastic	硫酸,雙氧水,硝酸,鹽酸 / H ₂ SO ₄ , H ₂ O ₂ , HNO ₃ , HCI
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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Test Report

鈞寶電子工業股份有限公司 KING CORE ELECTRONICS INC. 桃園市平鎮區南豐路269號(平鎮工業區) NO. 269, NANFONG RD., PINGZHEN DIST., TAOYUAN CITY 324-59, TAIWAN

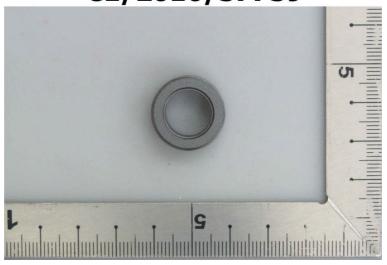
號碼(No.): CE/2016/37739

* 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) **