



**TEST REPORT**

NUMBER : TWNC00078201

APPLICANT 申請商: YELLOW STONE CORP.  
 早安股份有限公司  
 SHENZHEN QUAN-AN ELECTRONICS CO., LTD.  
 深圳市全安電子有限公司  
 KUNSHAN QUAN-AN ELECTRONICS CO., LTD.  
 崑山全安電子有限公司  
 NO 9 LANE 113 CHIH-YUAN 2ND RD  
 TAIPEI TAIWAN ROC  
 台北市北投區致遠二路 113 巷 9 號

DATE : MAY 22, 2008

XINSHIYI INDUSTRIAL, HESHUIKOU  
 COMMUNITY, GONGMING TOWN, BAOAN  
 ZONE, SHENZHEN CITY, GUANGDONG  
 PROVINCE, CHINA  
 中國廣東省深圳市寶安區公明街道合水口社區  
 新時藝工業村

ROOM 902, NO.111, ZHEN-CHUAN-  
 ROAD, YUSHAN TOWN, KUNSHAN CITY,  
 JIANGSU PROVINCE, CHINA  
 江蘇省昆山市玉山鎮震川西路 111 號 902 室

**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 : OPTO-ELECTRONIC PRODUCTS  
 樣品名稱 (A) BODY PART  
 (B) PIN PART  
 STYLE / ITEM NO. : PLEASE SEE PAGE TWO  
 產品型號  
 BUYER'S NAME : PLEASE SEE PAGE TWO  
 買家名稱  
 BUYER'S ORDER NO. : PLEASE SEE PAGE TWO  
 買家型號  
 COUNTRY OF ORIGIN. 台灣&中國  
 原產國  
 DATE SAMPLE RECEIVED : MAY 14, 2008  
 收件日期  
 DATE TEST STARTED : MAY 15, 2008  
 開始測試日期

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**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.

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AUTHORIZED BY:  
 ON BEHALF OF INTERTEK TESTING SERVICES  
 TAIWAN LIMITED



K. Y. LIANG  
 DIRECTOR

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 EXCEPT IN FULL, WITHOUT THE WRITTEN  
 APPROVAL OF THE LABORATORY.



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SAMPLE DESCRIPTION 樣品敘述:

STYLE / ITEM NO.  
產品型號

: STANDARD LED LAMPS (ROUND TYPES, RECTANGULAR TYPES, CYLINDRICAL TYPES, TOWER TYPES)  
DUAL-CHIP&TRI-STATE LED LAMPS (ROUND TYPES)  
RESISTOR LED LAMPS (ROUND TYPES)  
ULTRA LED LAMPS ,FLUX LED LAMPS, TAPED LED LAMP

BUYER'S NAME  
買家名稱

: NETTECH TECHNOLOGY (SUZHOU) CO., LTD.  
PANASONIC TAIWAN CO., LTD.  
RUNTOP (SHANGHAI) CO., LTD.  
WUS PRINTED CIRCUIT CO., LTD  
JESS-LINK PRODUCTS CO.LTD

BUYER'S ORDER NO.  
買家型號

: STANDARD LED LAMPS (ROUND TYPES)  
RECTANGULAR TYPES,  
CYLINDRICAL TYPES, TOWER TYPES)  
DUAL-CHIP&TRI-STATE LED LAMPS  
(ROUND TYPES)  
RESISTOR LED LAMPS (ROUND TYPES)  
ULTRA LED LAMPS, FLUX LED LAMPS  
TAPED LED LAMP

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TEST CONDUCTED

( I ) TEST RESULT SUMMARY 測試結果 :

TESTING ITEM 測試項目	RESULT 結果 (ppm)	
	(A)	(B)
<b>HEAVY METAL / 重金屬</b>		
CADMIUM (Cd) CONTENT / 鎘含量	ND	ND
LEAD (Pb) CONTENT / 鉛含量	ND	7
MERCURY (Hg) CONTENT / 汞含量	ND	ND
CHROMIUM VI (Cr <sup>6+</sup> ) CONTENT / 六價鉻含量 (FOR MATERIAL OTHER THAN METAL 針對非金屬材質)	ND	--
CHROMIUM VI (Cr <sup>6+</sup> ) CONTENT / 六價鉻含量 (QUALITATIVE METHOD FOR METAL 針對金屬之定性法 )	--	NEGATIVE
<b>POLYBROMINATED BIPHENYLS (PBBs) / 多溴聯苯</b>		
MONOBROMINATED BIPHENYLS (MONOBB) / 單溴聯苯	ND	--
DIBROMINATED BIPHENYLS (DIBB) / 二溴聯苯	ND	--
TRIBROMINATED BIPHENYLS (TRIBB) / 三溴聯苯	ND	--
TETRABROMINATED BIPHENYLS (TETRABB) / 四溴聯苯	ND	--
PENTABROMINATED BIPHENYLS (PENTABB) / 五溴聯苯	ND	--
HEXABROMINATED BIPHENYLS (HEXABB) / 六溴聯苯	ND	--
HEPTABROMINATED BIPHENYLS (HEPTABB) / 七溴聯苯	ND	--
OCTABROMINATED BIPHENYLS (OCTABB) / 八溴聯苯	ND	--
NONABROMINATED BIPHENYLS (NONABB) / 九溴聯苯	ND	--
DECABROMINATED BIPHENYL (DECABB) / 十溴聯苯	ND	--
<b>POLYBROMINATED DIPHENYL ETHERS (PBDEs) / 多溴聯苯醚</b>		
MONOBROMINATED DIPHENYL ETHERS (MONOBDE) / 單溴聯苯醚	ND	--
DIBROMINATED DIPHENYL ETHERS (DIBDE) / 二溴聯苯醚	ND	--
TRIBROMINATED DIPHENYL ETHERS (TRIBDE) / 三溴聯苯醚	ND	--
TETRABROMINATED DIPHENYL ETHERS (TETRABDE) / 四溴聯苯醚	ND	--
PENTABROMINATED DIPHENYL ETHERS (PENTABDE) / 五溴聯苯醚	ND	--
HEXABROMINATED DIPHENYL ETHERS (HEXABDE) / 六溴聯苯醚	ND	--
HEPTABROMINATED DIPHENYL ETHERS (HEPTABDE) / 七溴聯苯醚	ND	--
OCTABROMINATED DIPHENYL ETHERS (OCTABDE) / 八溴聯苯醚	ND	--
NONABROMINATED DIPHENYL ETHERS (NONABDE) / 九溴聯苯醚	ND	--
DECABROMINATED DIPHENYL ETHER (DECABDE) / 十溴聯苯醚	ND	--
<b>HALOGEN CONTENT / 鹵素含量</b>		
FLUORINE (F) / 氟	ND	--
CHLORINE (Cl) / 氯	ND	--
BROMINE (Br) / 溴	ND	--
IODINE (I) / 碘	ND	--
PERFLUOROCTANE SULFONATES (PFOS) / 全氟辛磺酸	ND	--
PERFLUOROCTANOIC ACID (PFOA) / 全氟辛酸	ND	--

CHEMIST: INORGANIC (ATHY OU/ING KUO/MINA YAO)  
分析人員 ORGANIC (VICO LIN/YIAN LEE)

REMARKS 備註 : ppm = PARTS PER MILLION BASED ON WEIGHT OF TESTED SAMPLE  
= 百萬分之一, 依據測試樣品重量計算  
ND = NOT DETECTED = 未檢測出

DATE SAMPLE RECEIVED : MAY 14, 2008  
樣品收件日期  
TESTING PERIOD : MAY 15, 2008 TO MAY 22, 2008  
樣品測試期間

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(II) ROHS REQUIREMENT 限值:

RESTRICTED SUBSTANCES 限用物質	LIMITS 限值
CADMIUM (Cd) / 鎘	0.01% (100ppm)
LEAD (Pb) / 鉛	0.1% (1000ppm)
MERCURY (Hg) / 汞	0.1% (1000ppm)
CHROMIUM (VI) (Cr <sup>6+</sup> ) / 六價鉻	0.1% (1000ppm)
POLYBROMINATED BIPHENYLS (PBBs) / 多溴聯苯	0.1% (1000ppm)
POLYBROMINATED DIPHENYL EHTERS (PBDEs) / 多溴聯苯醚	0.1% (1000ppm)

(III) TEST METHOD 測試方法 :

TESTING ITEM 測試項目	TESTING METHOD 測試方法	REPORTING LIMIT 報告極限
CADMIUM (Cd) CONTENT 鎘含量	WITH REFERENCE TO IEC 62321-111/95/CDV IN CLAUSE 8/9/10, BY MICROWAVE DIGESTION UNTIL THE TESTED SAMPLES ARE TOTALLY DISSOLVED AND DETERMINED BY ICP-OES 參考IEC 62321-111/95/CDV 第8/9/10章,以微波消化法 測試樣品直到樣品完全溶解並用感應耦合電漿原子放射光譜儀分 析。	2 ppm
LEAD (Pb) CONTENT 鉛含量	WITH REFERENCE TO IEC 62321-111/95/CDV IN CLAUSE 8/9/10, BY MICROWAVE DIGESTION UNTIL THE TESTED SAMPLES ARE TOTALLY DISSOLVED AND DETERMINED BY ICP-OES 參考IEC 62321-111/95/CDV 第8/9/10章,以微波消化法 測試樣品直到樣品完全溶解並用感應耦合電漿原子放射光譜儀分 析。	2 ppm
MERCURY (Hg) CONTENT 汞含量	WITH REFERENCE TO IEC 62321-111/95/CDV IN CLAUSE 7, BY MICROWAVE DIGESTION UNTIL THE TESTED SAMPLES ARE TOTALLY DISSOLVED AND DETERMINED BY ICP-OES 參考IEC 62321-111/95/CDV 第7章,以微波消化法測試樣 品直到樣品完全溶解並用感應耦合電漿原子放射光譜儀分析。	2 ppm

REMARKS 備註 : REPORTING LIMIT = QUANTITATION LIMIT OF ANALYTE IN SAMPLE  
 報告極限 = 測試樣品之定量偵測極限  
 mg/kg WITH 50cm<sup>2</sup> = MILLIGRAM PER KILOGRAM WITH 50 SQUARE  
 CENTIMETER  
 = 公斤分之毫克, 依據樣品面積的50平方公分計算  
 TESTS WERE CONDUCTED WITH REFERENCE TO 111/95/CDV VERSION 2007-  
 10-12 WHICH IS STILL A DRAFT METHOD AND SUBJECT TO FUTHRE CHANGES  
 PRIOR TO PUBLICATION.  
 參考IEC 111/95/CDV VERSION 2007-10-12進行測試, 此測試方法目前仍是草案, 發行前仍  
 有修正之可能。

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(III) TEST METHOD 測試方法 :

TESTING ITEM 測試項目	TESTING METHOD 測試方法	REPORTING LIMIT 報告極限
CHROMIUM VI (Cr <sup>6+</sup> ) CONTENT (FOR MATERIAL OTHER THAN METAL) 六價鉻含量 (針對非金屬 材質)	WITH REFERENCE TO IEC 62321-111/95/CDV IN ANNEX C, BY ALKALINE DIGESTION AND DETERMINED BY UV-VIS SPECTROPHOTOMETER 參考IEC 62321-111-95-CDV 附錄C ,以鹼液消化並用紫外 光-可見光分光光度計分析。	1 ppm
CHROMIUM VI (Cr <sup>6+</sup> ) CONTENT (QUALITATIVE METHOD FOR METAL) 六價鉻含量 (針對金屬之 定性法)	WITH REFERENCE TO IEC 62321-111/95/CDV IN ANNEX B, BY BOILING WATER EXTRACTION AND DETERMINED BY UV-VIS SPECTROPHOTOMETER 參考 IEC 62321-111-95-CDV 附錄 B ,以沸水萃取並用紫 外光-可見光分光光度計分析。	0.02 mg/kg WITH 50cm <sup>2</sup>
POLYBROMINATED BIPHENYLS (PBBs) 多溴聯苯	WITH REFERENCE TO IEC 62321-111/95/CDV IN ANNEX A, BY SOLVENT EXTRACTION AND DETERMINED BY GC- MSD AND FURTHER HPLC CONFIRMATION WHEN NECESSARY 參考IEC 62321-111/95/CDV 附錄A,以溶劑萃取並用氣 相層析質譜儀分析,必要時會以高效能液相層析-二極體陣列偵 檢器進行確認。	5 ppm
POLYBROMINATED DIPHENYL ETHERS (PBDEs) 多溴聯苯醚	WITH REFERENCE TO IEC 62321-111/95/CDV IN ANNEX A, BY SOLVENT EXTRACTION AND DETERMINED BY GC- MSD AND FURTHER HPLC CONFIRMATION WHEN NECESSARY 參考IEC 62321-111/95/CDV 附錄A,以溶劑萃取並用氣 相層析質譜儀分析,必要時會以高效能液相層析-二極體陣列偵 檢器進行確認。	5 ppm
HALOGEN CONTENT 鹵素含量	WITH REFERENCE TO IEC 61189-2:2006 BY COMBUSTION FLASK WITH OXYGEN AND DETERMINED BY ION CHROMATOGRAPHY 參考IEC 61189-2:2006,以氧氣燃燒瓶燃燒集氣法並用離子 層析儀分析。	50 ppm
PERFLUOROOCTANE SULFONATES (PFOS) 全氟辛磺酸	BY SOLVENT EXTRACTION AND DETERMINED BY LC- MS-MS 以溶劑萃取並用液相層析串聯式質譜儀分析。	10 ppm
PERFLUOROOCTANOIC ACID (PFOA) 全氟辛酸	BY SOLVENT EXTRACTION AND DETERMINED BY LC- MS-MS 以溶劑萃取並用液相層析串聯式質譜儀分析。	10 ppm

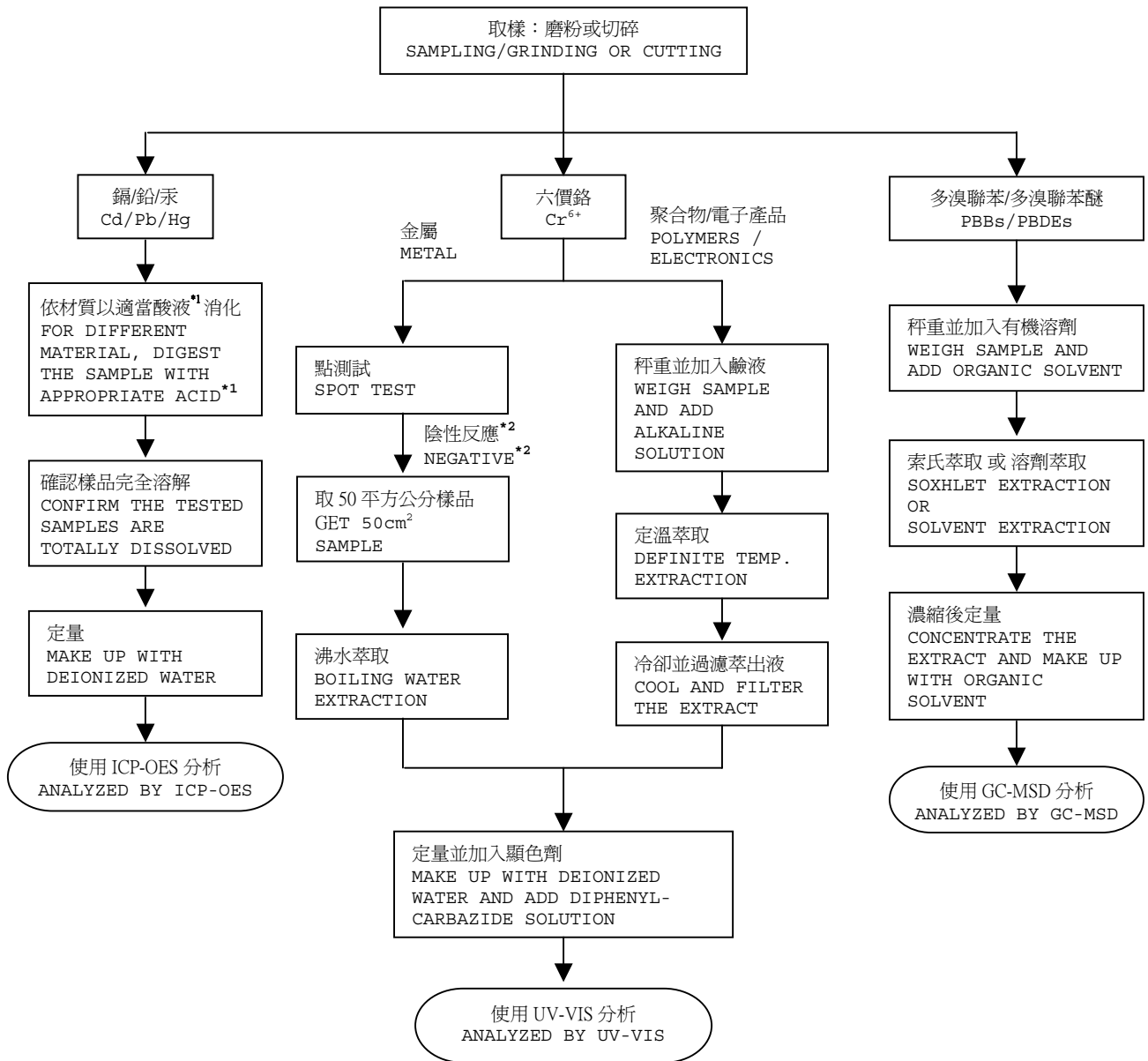
REMARKS 備註 : REPORTING LIMIT = QUANTITATION LIMIT OF ANALYTE IN SAMPLE  
 報告極限 = 測試樣品之定量偵測極限  
 mg/kg WITH 50cm<sup>2</sup> = MILLIGRAM PER KILOGRAM WITH 50 SQUARE  
 CENTIMETER  
 = 公斤分之毫克,依據樣品面積的50平方公分計算  
 TESTS WERE CONDUCTED WITH REFERENCE TO 111/95/CDV VERSION 2007-  
 10-12 WHICH IS STILL A DRAFT METHOD AND SUBJECT TO FUTHRE CHANGES  
 PRIOR TO PUBLICATION.  
 參考IEC 111/95/CDV VERSION 2007-10-12進行測試,此測試方法目前仍是草案,發行前仍  
 有修正之可能。

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TEST CONDUCTED

(IV) MEASUREMENT FLOWCHART 測試流程圖:

TEST FOR Cd/Pb/Hg/CHROMIUM (VI)/PBBS/PBDES CONTENTS ROHS 六項測試流程圖  
 REFERENCE STANDARD 參考方法: IEC 62321 (111/95/CDV)



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REMARKS 備註:

\*1: LIST OF APPROPRIATE ACID 各材質添加酸液如下表:

MATERIAL 樣品材質	ACID ADDED FOR DIGESTION 添加酸液種類
POLYMERS / 聚合物	HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub> 硝酸、鹽酸、氫氟酸、雙氧水、硼酸
METALS / 金屬	HNO <sub>3</sub> , HCl, HF 硝酸、鹽酸、氫氟酸
ELECTRONICS / 電子產品	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub> 硝酸、鹽酸、雙氧水、氟硼酸

\*2: IF THE RESULT OF SPOT TEST IS POSITIVE, CHROMIUM VI WOULD BE DETERMINED AS DETECTED.

若點測試的結果為陽性反應，則直接判定為測試樣品含有六價鉻。

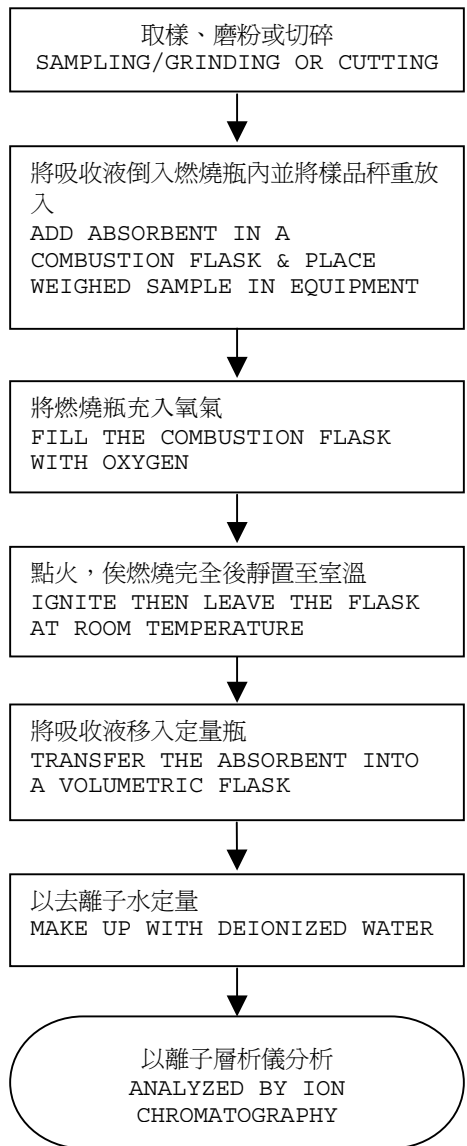
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(IV) MEASUREMENT FLOWCHART 測試流程圖:

TEST FOR HALOGEN CONTENT 鹵素測試流程圖

REFERENCE METHOD 參考方法: IEC 61189-2 TEST 2C12



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END OF REPORT

TEST CONDUCTED

PHOTO

