

# Delton Electronics Inc.

## OUT-GOING INSP.REPORT

<b>Customer</b>	大眾
<b>Customer P/N</b>	GTA02-MB-A6(50-71481-00)
<b>Part Number</b>	08KT49350G0A
<b>D/C</b>	0812
<b>Quantity</b>	120 PCS

<b>Check by</b>	Ruirui_Wang	<b>Approved by</b>	Susan
<b>Prepared by</b>	Yingying_Li	<b>Build Date</b>	2008.03.17

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# QA Check-list

No.	Contents	Item	Check	Requirement	Result	Comments
1	VISUAL	1-1. All Item	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	To depend on Visual Requirement	OK	PASS
2	Dimension Measurement	2-1. Outside	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	To depend on customer information	OK	PASS
		2-2. Hole Size	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	To depend on customer information	OK	PASS
		2-3. Trough Width	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	N/A	N/A	N/A
		2-4. Board Thickness	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	To depend on customer information	OK	PASS
		2-5. Au/Ni Thickness	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	To depend on customer information	OK	PASS
		2-6. Dielectric Thickness	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	To depend on customer information	OK	PASS
3	Impedance Measurement	3-1. Indentity	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	To depend on customer information	OK	PASS
		3-2. Differentialaction	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	N/A	N/A	N/A
4	Reliability Test	4-1. Thermal Stress	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	No excessive voids, crack	OK	PASS
		4-2. Solderability	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	>95%	OK	PASS
		4-3. Ionic Contamination Test	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	$\leq 6.45 \mu\text{g NaCl/sq.in}$	1.6 $\mu\text{g NaCl/sq.in}$	PASS
		4-4 Soft Etching corrosion resistance	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	20% H <sub>2</sub> SO <sub>4</sub> , 1%H <sub>2</sub> O <sub>2</sub> solution 45°C , 30sec dip	No pin hole	PASS
		4-5 solder resist hardness	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	>6H	7.28 H	PASS

A. VISUAL(外觀檢驗)														
ITEM		REQUIREMENT		RESULT		AC	RE	ITEM		REQUIREMENT		RESULT	AC	RE
MATERIAL		FR-4		FR-4		✓		PEELING TEST		NO PEEL OFF		PASS	✓	
BOARD THK		0.03990+/-0.00399"		0.03846~0.04198"		✓		DATE CODE		YYWW		0812	✓	
LINE WIDTH		0.004000"	MIN	0.00406"	MIN	✓		UL MARK		DTI BV-1		DTI BV-1	✓	
SPACING		0.003500"	MIN	0.00352"	MIN	✓		O/S TEST		100% TEST		PASS	✓	
ANNULAR RING		0.002" MIN		0.002" MIN		✓		WARP&TWIST		≦0.70%		0.11~0.20%	✓	
SOLDER MASK		Blue		Blue		✓								
LEGEND		White		White		✓								
B. HOLE SIZE: (UNIT -INCH)    "*"表示NON-PTH (孔徑)														
NO	REQUIREMENT	TOLERANCE(+)	TOLERANCE(+)	RESULT	AC	RE	NO	REQUIREMENT	TOLERANCE(+)	TOLERANCE(-)	RESULT	AC	RE	
*1	0.02953	0.002	0.002	0.02800 ~ 0.02953	✓		26							
*2	0.03543	0.002	0.002	0.03500 ~ 0.03543	✓		27							
*3	0.04331	0.002	0.002	0.04200 ~ 0.04331	✓		28							
*4	0.05906	0.002	0.002	0.05800 ~ 0.05906	✓		29							
*5	0.08000	0.002	0.002	0.07900 ~ 0.08000	✓		30							
6	0.07874	0.003	0.003	0.07874 ~ 0.07900	✓		31							
*7	0.15748	0.002	0.002	0.15700 ~ 0.15748	✓		32							
8	END!						33							
9							34							
10							35							
11							36							
12							37							
13							38							
14							39							
15							40							
16							41							
17							42							
18							43							
19							44							
20							45							
21							46							
22							47							
23							48							
24							49							
25							50							

DISPOSITION:      ☒ ACC                      ☐ REJ                      ☐ UAI

C. OUTSIDE DIMENSION:(UNIT - INCH)													
NO	REQUIREMENT	TOLERANCE(+)	TOLERANCE(-)	RESULT	AC	RE	NO	REQUIREMENT	TOLERANCE(+)	TOLERANCE(-)	RESULT	AC	RE
1	4.000	0.20mm	0.20mm	3.97mm ~ 4.00mm	✓		26						
2	0.197	0.008	0.008	0.197 ~ 0.197	✓		27						
3	0.197	0.008	0.008	0.197 ~ 0.198	✓		28						
4	2.205	0.008	0.008	2.203 ~ 2.205	✓		29						
5	2.126	0.008	0.008	2.125 ~ 2.126	✓		30						
6	2.283	0.008	0.008	2.283 ~ 2.287	✓		31						
7	2.109	0.008	0.008	2.107 ~ 2.109	✓		32						
8	3.744	0.008	0.008	3.744 ~ 3.745	✓		33						
9	3.618	0.008	0.008	3.614 ~ 3.618	✓		34						
10	2.467	0.008	0.008	2.465 ~ 2.467	✓		35						
11	4.839	0.008	0.008	4.839 ~ 4.840	✓		36						
12	7.192	0.008	0.008	7.187 ~ 7.192	✓		37						
13	9.563	0.008	0.008	9.562 ~ 9.563	✓		38						
14	9.921	0.008	0.008	9.920 ~ 9.921	✓		39						
15	4.197	0.008	0.008	4.195 ~ 4.197	✓		40						
16	4.650	0.008	0.008	4.650 ~ 4.652	✓		41						
17	END!						42						
18							43						
19							44						
20							45						
21							46						
22							47						
23							48						
24							49						
25							50						
D. MICROSECTION:(UNIT-INCH)							E. REMARK						
ITEM	REQUIREMENT	RESULT			AC	RE	1						
Cu	SURFACE Cu $\geq$ 0.0013	0.00146~0.00154"			✓		2						
	HOLE Cu $\geq$ 0.0009	0.00101~0.00121"			✓		3						
OSP	0.2~0.5 $\mu$ m	0.25~0.45 $\mu$ m			✓		4						
Ni	100 u" MIN	142.97~167.85u"			✓		5						
Au	3 u" MIN	3.97~5.58 u"			✓		6						

DISPOSITION:      ☒ ACC                      ☐ REJ                      ☐ UAI

Plated Microsection Inspection Report

廠內料號	Work Time	No.	銅厚(Tenting)				Total Copper (總銅平均值)		Tin(錫)		Registrat ion (對準度)	Etchbac k (回蝕)	Rough- ness (粗糙度)	Lamination		
			Side(面)	Hole(孔)												
客戶料號			I	1	2	3	Side	Hole	Side	Hole				(疊合結構)	(疊合規格)	實際量測值
	II	4	5	6												
08KT49350G0A	03/17	1	1.46	1.08	1.19	1.05	1.49	1.11			1.15	0.45	0.42	COPPER PP 1080 61% COPPER PP 1080 61% COPPER PP 1080 61%*1080 64% COPPER FR-4 COPPER PP 1080 64%*1080 61% COPPER PP 1080 61% COPPER PP 1080 61% COPPER	1.30 2.74 0.5 oz 2.74 0.5 oz 6.14 1.0 oz 6.00 1.0 oz 6.14 0.5 oz 2.74 0.5 oz 2.74 1.30	1.469 2.875 1.306 2.801 0.925 6.216 1.034 6.042 1.136 6.243 0.887 2.828 1.224 2.976 1.527
		2	1.52	1.18	1.02	1.16										
		1	1.46	1.12	1.13	1.08	1.50	1.14			1.10	0.36	0.32			
		2	1.54	1.15	1.20	1.15										
GTA02-MB-A6(50-71481-00)		1	1.49	1.18	1.01	1.17	1.51	1.15			1.17	0.33	0.37			
		2	1.53	1.21	1.18	1.13										

Unit:(mil)

DISPOSITION: ☒ ACC ☐ REJ ☐ UAI

**Delton Technology Incorporated**  
**SOLDERABILITY TEST REPORT**

TEST CONDITION AND RESULT								
CONDITION		REQUIREMENT		ACTUAL RESULTS				
SOLDER TEMPERATURE		245±5℃		250℃				
DIP TIME		3~5 s		5 s				
RESULT								
DATE	CUSTOMER P/N	DELTON P/N	D/C	TOTAL HOLES	DEWETTING HOLES	RESUL T(ppm)	AC	RE
Mar.17,2008	GTA02-MB-A6(50-71481-00)	08KT49350G0A	0812	8	0	0	v	
REMARK:1.S/S 焊錫面 100%Wetting. 2.C/S 零件面 100%Wetting.								
Check by	Ruirui_Wang		INSPECTOR			Yingying_Li		

DISPOSITION:

☒ ACC

☐ REJ

☐ UAI

**Delton Technology (GZ) Incorporated**  
**THERMAL STRESS TEST REPORT**

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CUSTOMER P/N	GTA02-MB-A6(50-71481-00)	DATE CODE	0812	
DELTON P/N	08KT49350G0A	DATE OF TEST	Mar.17,2008	
TEST CONDITION AND RESULTS:				
CONDITION	REQUIREMENT	ACTUAL RESULTS		
SOLDER TEMPERATURE	288±5 °C	293°C		
DIP TIME	10+1/-0 s	11 s		
RESULTS:				
QUANTITY BOARDS TESTED		AC	RE	REMARK
PASS	FAIL			
4	0	V		NO CRACK
REMARK: 1.Holi Wall :No Crack ,No Separation 2. Laminate : No Delamination, No Blistering. 3.Solker Mask: No Peel Off. No Crack.				
Check by	Ruirui_Wang	INSPECTOR	Yingying_Li	

DISPOSITION:

☒ ACC

☐ REJ

☐ UAI



## Open&Short Circuit Test

Tester Model:	<b>8000HV</b>
Test Voltage:	<b>250V</b>
Test Current:	<b>20mA</b>
Isolation Resistance:	<b>10M<math>\Omega</math></b>
Continuity Resistance:	<b>20 <math>\Omega</math></b>
Test Result:	<b>PASS</b>

DISPOSITION:

☒ ACC

☐ REJ

☐ UAI

# Impedance Measurement Report

客戶料號:GTA02-MB-A6(50-71481-00)																		廠內料號: 08KT49350G0A																		Date: 2008.03.17																	
2	位置	規格(Ω)		1	2	3	4	5	6	7	8	9	10	Total			判定																																				
														MAX	MIN	AVG																																					
1	L5-L3,6	規格(Ω)	50.00	49.63	49.60	53.36	51.62	52.36	50.32	48.64	50.43	49.65	52.85	53.36	48.64	50.85	PASS																																				
		上限(Ω)	55.00																																																		
		下限(Ω)	45.00																																																		
2	L8-L6	規格(Ω)	50.00	49.64	48.52	52.69	49.62	51.46	50.32	52.85	52.48	49.68	50.47	52.85	48.52	50.77	PASS																																				
		上限(Ω)	55.00																																																		
		下限(Ω)	45.00																																																		
3																																																					
4																																																					
5																																																					
6																																																					
7																																																					
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# Delton Electronics Inc.

## Customer Drawing &COC

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<b>Date:</b>	2008.03.17
<b>D/C:</b>	0812
<b>CUSTOMER:</b>	大眾
<b>P.O.#:</b>	
<b>PART#:</b>	GTA02-MB-A6(50-71481-00)
<b>QUANTITY:</b>	120 PCS

**We hereby certify the materials listed above to be in compliance with the terms and conditions of your purchase order ,including all applicable drawings and specifications. meet or exceed U.L. flame classification 94V--0.**

**Inspection records and test data necessary to substantiate this certification are on file.**

*ch-shieh*

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# Certificate of Compliance

Certificate Number 20040127-E237771  
Report Reference E237771, 2003 October 30  
Issue Date 2004 January 27

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**Underwriters  
Laboratories Inc.®**

**Issued to:** **Delton Technology (Guangzhou) Inc.**  
22 Baoyingnan Rd., The Computer Industrial City of GZ FTZ, Guangzhou,  
Guangdong 510730, China

*This is to certify that  
representative samples of*

## **Wiring, Printed**

Multilayer Printed Wiring Boards Employing Rigid Core and High Density  
Interconnect (HDI) Material, Type BV-1.  
Multilayer Printed Wiring Board, Types ML-1 and ML-2


*Have been investigated by Underwriters Laboratories Inc.® in  
accordance with the Standard(s) indicated on this Certificate.*

**Standard(s) for Safety:** UL 796, Printed-Wiring Boards

### **Additional Information:**

The wiring printed category covers printed wiring boards for use as components in devices or appliances. The boards may use organic or inorganic base materials in a single or multilayer, rigid or flexible form. Circuitry construction may include etched, die stamped, precut, flush press, additive, and plated conductor techniques. Printed-component parts may be used. The suitability of the pattern parameters, temperature and maximum solder limits shall be determined in accordance with the applicable end-product construction and requirements.

**Only those products bearing the UL Recognized Component Marking should be considered as being covered by UL's Recognition and Follow-Up Service.**

The UL Recognized Component Marking generally consists of the manufacturer's identification and catalog number, model number or other product designation as specified under "Marking" for the particular Recognition as published in the appropriate UL Directory. As a supplementary means of identifying products that have been produced under UL's Component Recognition Program, UL's Recognized Component Mark:  may be used in conjunction with the required Recognized Markings. The Recognized Component Mark is required when specified in the UL Directory preceeding the recognitions or under "Markings" for the individual recognitions.

**Look for the UL Recognized Component Marking on the product**

Issued By:

**CHRIS MAK / Project Engineer**  
UL International Ltd.

Reviewed By:

**CARSON WANG / Manager**  
UL International Ltd.

Pursuant to the Corporate Services Agreement between UL International Ltd. and Underwriters Laboratories Inc. ("UL"), UL hereby accepts and issues this Certificate of Compliance. For questions in Hong Kong, you may call 852-22769898.

## Test Report

Report No.:GZR07071221092B

Date :Jul. 17, 2007

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**Client** :DELTON ELECTRONICS (GUANGZHOU)INC.

**Address** :NO.22 BAOYING NAN ROAD THE COMPUTER INDUSTRIAL CITY OF GZ FTZ

**Report on the submitted sample said to be:**

Sample Name	:Printed Circuit Board (OSP)
Tested Component Description	:PCB(mixed)
Part No.	:08EJ15012A
Buyer	:SONY
Sample Received Date	:Jul. 12, 2007
Completed Date	:Jul. 17, 2007
Test Requested	:1.As specified by client, to determine the Lead, Mercury, Cadmium, Hexavalent Chromium, Tetrabromobisphenol-A, Mirex, Poly Chlorinated Biphenyls, Poly Chloride Triphenyls, Poly Chloride Naphthalenes, Formaldehyde release, PBBs&PBDEs, AZO compounds, Short Chained Chlorided Paraffins, Hydrofluorocarbons(HFCs)/Perfluorocarbons(PFCs), Organic Tin compounds(TBT/TPT) contents in the submitted sample and it was tested as a whole. 2.As specified by client, to identify if there is the Asbestos in the submitted sample. 3.As specified by client, to identify if there is the Poly Vinyl Chloride in the submitted sample.



Centre Testing International

## Test Report

Report No.:GZR07071221092B

Date :Jul. 17, 2007

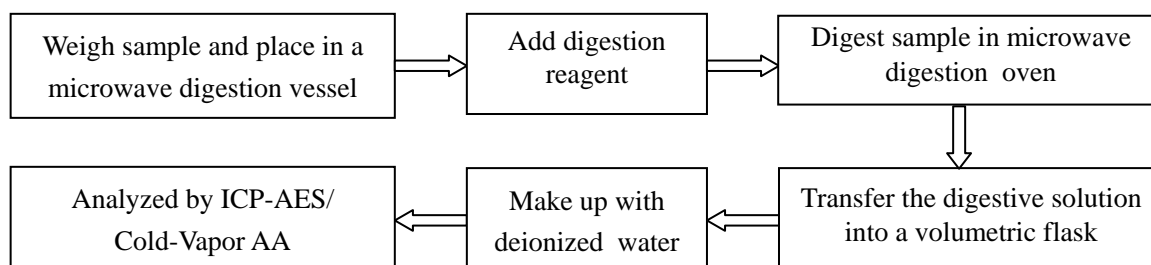
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### Test Method:

Tested Items		Pretreatment Method	Measured Equipment	Report Limit
Lead (Pb)		Refer to US EPA 3052:1996	ICP-AES	2ppm
Mercury (Hg)		Refer to US EPA 3052:1996	Cold-Vapor AA	2ppm
Cadmium (Cd)		Refer to US EPA 3050B:1996 or other acid digestion	ICP-AES	2ppm
Hexavalent Chromium (Cr <sup>6+</sup> )		Refer to US EPA 3060A:1996	UV-Vis	2ppm
Tetrabromobisphenol-A (TBBP-A)		Refer to DIN 53313	GC-MSD	5ppm
Mirex		Refer to US EPA 3540 C:1996	GC-MSD	5ppm
Poly Chlorinated Biphenyls(PCBs)		Refer to US EPA 3540 C:1996	GC-MSD	5ppm
Poly Chloride Triphenyls (PCTs)		Refer to US EPA 3540 C:1996	GC-MSD	5ppm
Poly Chloride Naphthalene (PCNs)		Refer to US EPA 3540 C:1996	GC-MSD	5ppm
Formaldehyde release		Refer to GB/T 2912.1-1998	UV-7504	20ppm
Polybrominated Biphenyls (PBBs)		Refer to US EPA 3540 C:1996	GC-MSD	5ppm
Polybrominated Diphenyl Ethers (PBDEs)		Refer to US EPA 3540 C:1996	GC-MSD	5ppm
AZO compounds		LMBG B82.02-4 & EN14362-2:2003	GC-MSD	5ppm
Short Chained Chlorided Paraffins(SCCPs)		Refer to US EPA 3540 C:1996	GC-MSD	5ppm
Hydrofluorocarbons(HFCs)/Perfluorocarbons(PFCs)		Refer to Headspace-GC-MS	GC-MSD	5ppm
Organic Tin compounds	Tributyl Tins (TBT)	Refer to DIN38407 / 89/677/EEC	GC-MSD	5ppm
	Triphenyl Tins (TPT)	Refer to DIN38407 / 89/677/EEC	GC-MSD	5ppm
Asbestos		Refer to GB/T 6040-2002	FT-IR microscope	/
Poly Vinyl Chloride (PVC)		/	FT-IR	/

### Test Process :

#### 1. Test for Pb/Hg Contents.



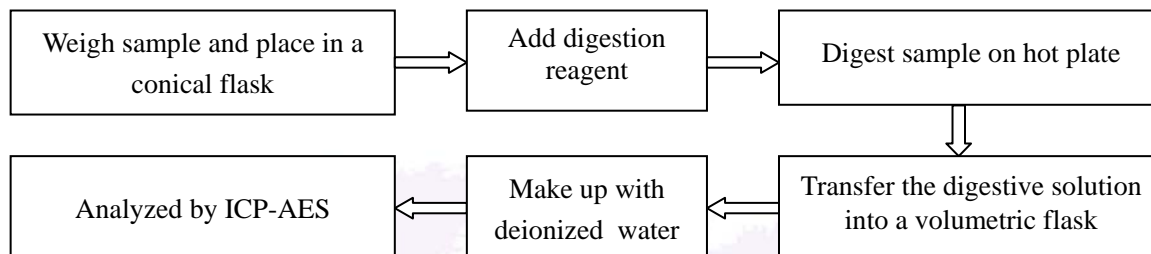
## Test Report

Report No.:GZR07071221092B

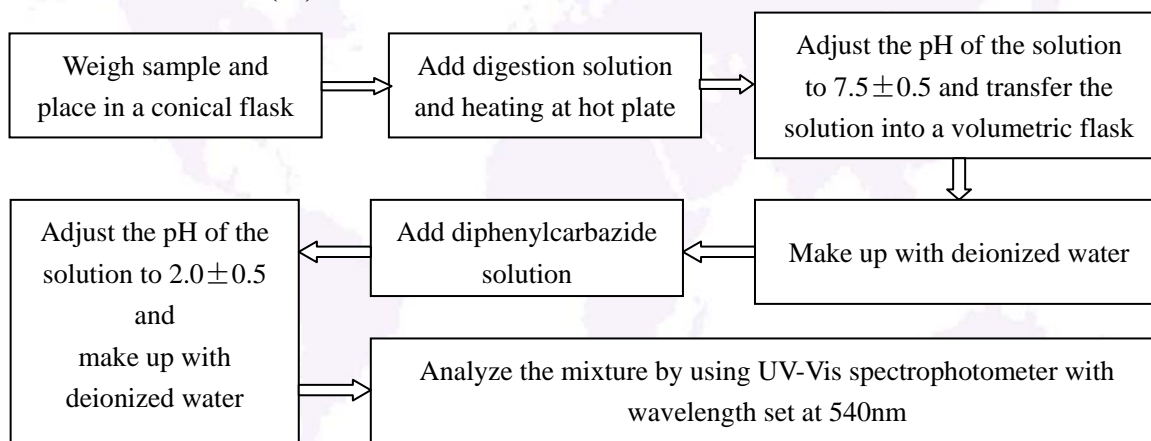
Date :Jul. 17, 2007

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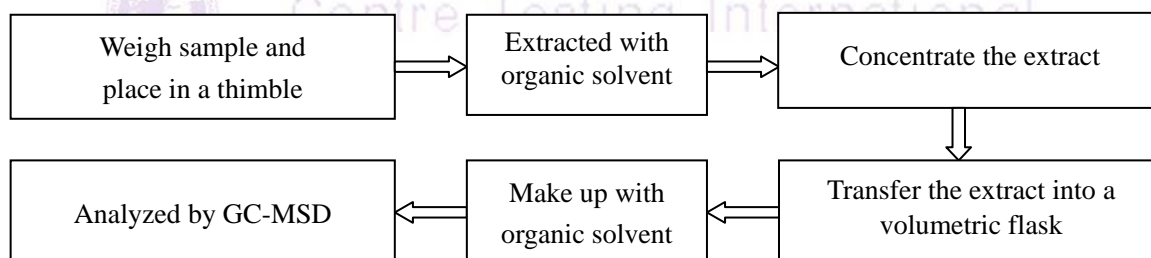
### 2. Test for Cd Content .



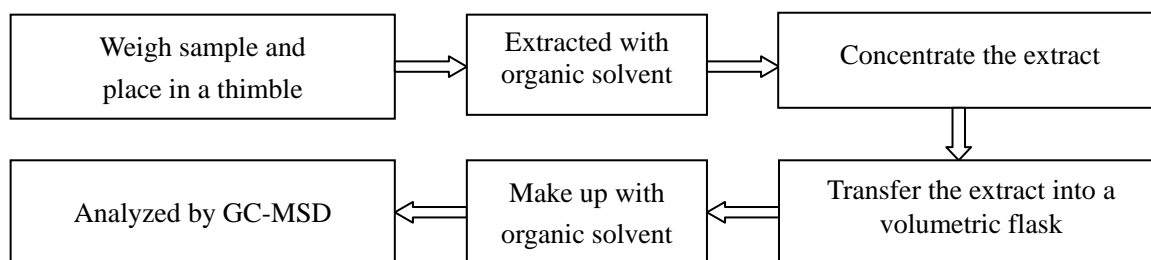
### 3. Test for Chromium(VI) Content .



### 4. Test for TBBP-A Content .



### 5. Test for PCBs/PCTs/PCNs/PBBs/PBDEs Contents .





## Test Report

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Date :Jul. 17, 2007

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### Test Results:

Tested Items		Contents
Lead (Pb)		17ppm
Mercury (Hg)		N.D.
Cadmium (Cd)		N.D.
Hexavalent Chromium (Cr <sup>6+</sup> )		N.D.
Tetrabromobisphenol-A (TBBP-A)		N.D.
Mirex		N.D.
Poly Chloride Biphenyls (PCBs)		N.D.
Poly Chloride Triphenyls (PCTs)		N.D.
Poly Chloride naphthalene (PCNs)		N.D.
Formaldehyde release		N.D.
Short Chained Chlorided Paraffins(SCCPs)		N.D.
Hydrofluorocarbons(HFCs)/Perfluorocarbons(PFCs)		N.D.
Organic Tin compounds	Tributyl Tins (TBT)	N.D.
	Triphenyl Tins (TPT)	N.D.

**Note :** The sample had been dissolved totally tested for Lead, Mercury, Cadmium.



Centre Testing International



## Test Report

Report No.:GZR07071221092B

Date :Jul. 17, 2007

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### Test Results:

Tested Items	Contents
<b>Polybrominated Biphenyls(PBBs)</b>	
Monobromobiphenyl	N.D.
Dibromobiphenyl	N.D.
Tribromobiphenyl	N.D.
Tetrabromobiphenyl	N.D.
Pentabromobiphenyl	N.D.
Hexabromobiphenyl	N.D.
Heptabromobiphenyl	N.D.
Octabromobiphenyl	N.D.
Nonabromobiphenyl	N.D.
Decabromobiphenyl	N.D.
<b>Polybrominated Diphenyl Ethers(PBDEs)</b>	
Monobromodiphenyl ether	N.D.
Dibromodiphenyl ether	N.D.
Tribromodiphenyl ether	N.D.
Tetrabromodiphenyl ether	N.D.
Pentabromodiphenyl ether	N.D.
Hexabromodiphenyl ether	N.D.
Heptabromodiphenyl ether	N.D.
Octabromodiphenyl ether	N.D.
Nonabromodiphenyl ether	N.D.
Decabromodiphenyl ether	N.D.

## Test Report

Report No.:GZR07071221092B

Date :Jul. 17, 2007

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### Test Results:

Tested Items	Content
<b>AZO compounds</b>	
4-aminodiphenyl	N.D.
Benzidine	N.D.
4-chloro-o-toluidine	N.D.
2-naphthylamine	N.D.
o-aminoazotoluene	N.D.
2-amino-4-nitrotoluene	N.D.
p-chloroaniline	N.D.
2,4-diaminoanisole	N.D.
4,4'-diaminodiphenylmethane	N.D.
3,3'-dichlorobenzidine	N.D.
3,3'-dimethoxybenzidine	N.D.
3,3'-dimethylbenzidine	N.D.
3,3'-dimethyl-4,4'-diaminodiphenylethane	N.D.
p-cresidine	N.D.
4,4'-methylene-bis-(2-chloroaniline)	N.D.
4,4'-oxydianiline	N.D.
4,4'-thiodianiline	N.D.
o-toluidine	N.D.
2,4-diaminotoluene	N.D.
2,4,5-trimethylaniline	N.D.
2-methoxyaniline	N.D.
4-aminoazobenzene	N.D.

**Note :** -N.D. = Not Detected (<report limit ).

-ppm = mg/kg=parts per million.

Tested Items	Conclusions
Asbestos	Negative
Poly Vinyl Chloride (PVC)	Negative

**Note :** -Negative = Not Contained.

**Remark:** This report is amended base on the test report No.GZR07071221092A.

## Test Report

Report No.:GZR07071221092B

Date :Jul. 17, 2007

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Written by

Tina

Inspected by

Jeel

Tested by

Sunny

Approved by

D. Lin

Lee

Position

Manager

Jing

Date

Jul. 17, 2007

This report shall not be altered, increased or deleted. The results shown in this test report refer only to the sample(s) tested.

Without written approval of CTI, this test report shall not be copied except in full and published as advertisement.

CTI Physical & Chemical Lab.



Centre Testing International

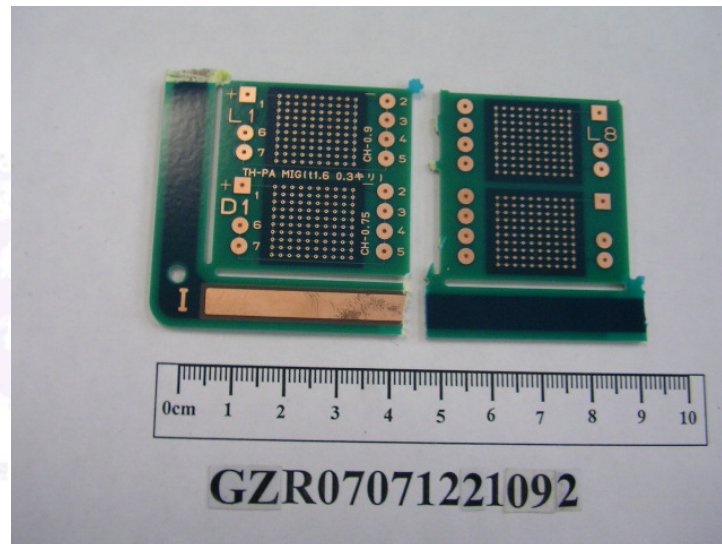
## Test Report

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### Photo of the sample



Centre Testing International

\*\*\* End of report \*\*\*