

# Test Report

GREATEK ELECTRONICS INC.

136, GUNG-YI RD., CHUNAN CHENG, MAIOLI HSIEN, 350  
TAIWAN, R. O. C.

Report No. : CE/2006/13054

Date : 2006/01/23

Page : 1 of 9

**The following merchandise was (were) submitted and identified by the client as :**

Type of Product : QFP & LQFP  
Sample Received : 2006/01/11  
Testing Date : 2006/01/11 TO 2006/01/23

=====  
Test Result : - Please see the next page -

  
Daniel Yeh, M.R. / Operation Manager  
Signed for and on behalf of  
SGS TAIWAN LTD.

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Date : 2006/01/23

Page : 2 of 9

## Test Result

PART NAME NO.1 : MIXED ALL PARTS OF BODY  
PART NAME NO.2 : SILVER COLORED METAL PINS (LEADFRAME)  
PART NAME NO.3 : MIXED ALL PARTS

Test Item (s):	Unit	Method	MDL	Result		
				No.1	No.2	No.3
Monobromobiphenyl	%	With reference to USEPA3540C or USEPA3550C. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 76/769/EEC)	0.0005	N.D.	---	---
Dibromobiphenyl	%		0.0005	N.D.	---	---
Tribromobiphenyl	%		0.0005	N.D.	---	---
Tetrabromobiphenyl	%		0.0005	N.D.	---	---
Pentabromobiphenyl	%		0.0005	N.D.	---	---
Hexabromobiphenyl	%		0.0005	N.D.	---	---
Heptabromobiphenyl	%		0.0005	N.D.	---	---
Octabromobiphenyl	%		0.0005	N.D.	---	---
Nonabromobiphenyl	%		0.0005	N.D.	---	---
Decabromobiphenyl	%		0.0005	N.D.	---	---
<b>Total PBBs (Polybrominated biphenyls)/Sum of above</b>	%		-	N.D.	---	---
Monobromobiphenyl ether	%	With reference to USEPA3540C or USEPA3550C. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC, and 76/769/EEC)	0.0005	N.D.	---	---
Dibromobiphenyl ether	%		0.0005	N.D.	---	---
Tribromobiphenyl ether	%		0.0005	N.D.	---	---
Tetrabromobiphenyl ether	%		0.0005	N.D.	---	---
Pentabromobiphenyl ether	%		0.0005	N.D.	---	---
Hexabromobiphenyl ether	%		0.0005	N.D.	---	---
Heptabromobiphenyl ether	%		0.0005	N.D.	---	---
Octabromobiphenyl ether	%		0.0005	N.D.	---	---
Nonabromobiphenyl ether	%		0.0005	N.D.	---	---
Decabromobiphenyl ether	%		0.0005	N.D.	---	---
<b>Total PBBEs(PBDEs) (Polybrominated biphenyl ethers)/Sum of above</b>	%		-	N.D.	---	---
<b>Total of Mono to Nonabrominated biphenyl ether. (Note 4)</b>	%	-	N.D.	---	---	

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Date : 2006/01/23

Page : 3 of 9

Test Item (s):	Unit	Method	MDL	Result		
				No.1	No.2	No.3
Chromium VI (Cr+6)	ppm	UV-VIS after reference to US EPA 3060A.	2	N.D.	N.D.	---
Cadmium (Cd)	ppm	ICP-AES after reference to EN 1122, method B:2001 or other acid digestion.	2	N.D.	N.D.	---
Mercury (Hg)	ppm	ICP-AES after reference to US EPA 3052 or other acid digestion.	2	N.D.	N.D.	---
Lead (Pb)	ppm	ICP-AES after reference to US EPA 3050B or other acid digestion.	2	N.D.	7.7	---

Test Item (s):	Unit	Method	MDL	Result		
				No.1	No.2	No.3
Asbestos						
Anthrophyllite(CAS NO.017068-78-9)	%	As per NIOSH 9000 method. Analysis was performed by XRD.	1	---	---	Negative
Crocidolite(CAS NO.012001-28-4)	%	As per NIOSH 9000 method. Analysis was performed by XRD.	1	---	---	Negative
Amosite(CAS NO.012172-73-5)	%	As per NIOSH 9000 method. Analysis was performed by XRD.	1	---	---	Negative
Tremolite(CAS NO.014567-73-8)	%	As per NIOSH 9000 method. Analysis was performed by XRD.	1	---	---	Negative
Chrysotile(CAS NO.012001-29-5)	%	As per NIOSH 9000 method. Analysis was performed by XRD.	1	---	---	Negative
Actinolite(CAS NO.013768-00-8)	%	As per NIOSH 9000 method. Analysis was performed by XRD.	1	---	---	Negative

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Report No. : CE/2006/13054

Date : 2006/01/23

Page : 4 of 9

Test Item (s):	Unit	Method	MDL	Result		
				No.1	No.2	No.3
AZO		As per LMBG 8202-2				
4-AMINODIPHENYL (CAS NO.92-67-1)	ppm	Analysis was performed by GC/MS.	3	---	---	N.D.
BENZIDINE (CAS NO.92-87-5)	ppm	Analysis was performed by GC/MS.	3	---	---	N.D.
4-CHLORO-O-TOLUIDINE (CAS NO.95-69-2)	ppm	Analysis was performed by GC/MS.	3	---	---	N.D.
2-NAPHTHYLAMINE (CAS NO.91-59-8)	ppm	Analysis was performed by GC/MS.	3	---	---	N.D.
O-AMINOAZOTOLUENE (CAS NO.97-56-3)	ppm	Analysis was performed by GC/MS.	3	---	---	N.D.
2-AMINO-4-NITROTOLUENE (CAS NO.99-55-8)	ppm	Analysis was performed by GC/MS.	3	---	---	N.D.
P-CHLOROANILINE (CAS NO.106-47-8)	ppm	Analysis was performed by GC/MS.	3	---	---	N.D.
2,4-DIAMINOANISOLE (CAS NO.615-05-4)	ppm	Analysis was performed by GC/MS.	3	---	---	N.D.
4,4'-DIAMINODIPHENYLMETHANE (CAS NO.101-77-9)	ppm	Analysis was performed by GC/MS.	3	---	---	N.D.
3,3'-DICHLOROBENZIDINE (CAS NO.91-94-1)	ppm	Analysis was performed by GC/MS.	3	---	---	N.D.
3,3'-DIMETHOXYBENZIDINE	ppm	Analysis was performed by GC/MS.	3	---	---	N.D.
3,3'-DIMETHYLBENZIDINE (CAS NO.119-93-7)	ppm	Analysis was performed by GC/MS.	3	---	---	N.D.
3,3'-DIMETHYL-4,4'-DIAMINODIPHENYLMETHANE (CAS NO.838-88-0)	ppm	Analysis was performed by GC/MS.	3	---	---	N.D.
P-CRESIDINE(2-METHOXY-5-METHYLANILINE) (CAS NO.120-71-8)	ppm	Analysis was performed by GC/MS.	3	---	---	N.D.
4,4'-METHYLENE-BIS-(2-CHLOROANILINE) (CAS NO.101-14-4)	ppm	Analysis was performed by GC/MS.	3	---	---	N.D.

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Report No. : CE/2006/13054

Date : 2006/01/23

Page : 5 of 9

Test Item (s):	Unit	Method	MDL	Result		
				No.1	No.2	No.3
4,4'-OXYDIANILINE (CAS NO.101-80-4)	ppm	Analysis was performed by GC/MS.	3	---	---	N.D.
4,4'-THIODIANILINE (CAS NO.139-65-1)	ppm	Analysis was performed by GC/MS.	3	---	---	N.D.
O-TOLUIDINE (CAS NO.95-53-4)	ppm	Analysis was performed by GC/MS.	3	---	---	N.D.
2,4-TOLUYLENEDIAMINE (CAS NO.95-80-7)	ppm	Analysis was performed by GC/MS.	3	---	---	N.D.
2,4,5-TRIMETHYLANILINE (CAS NO.137-17-7)	ppm	Analysis was performed by GC/MS.	3	---	---	N.D.
O-ANISIDINE (CAS NO.90-04-0)	ppm	Analysis was performed by GC/MS.	3	---	---	N.D.
P-AMINOAZOBENZENE (CAS NO.60-09-3)	ppm	Analysis was performed by GC/MS.	3	---	---	N.D.

Test Item (s):	Unit	Method	MDL	Result		
				No.1	No.2	No.3
Chlorinated Paraffin (C10~C13) (CAS NO:010871-26-2)	%	With reference to USEPA3540C or USEPA3550C. Analysis was performed by GC/MS or GC/ECD.	0.01	---	---	N.D.

Test Item (s):	Unit	Method	MDL	Result		
				No.1	No.2	No.3
Organic-tin compounds						
Triphenyl Tin(TPT)(CAS NO:000668-34-8)	ppm	With reference to 89/677/EEC & DIN 38407. Analysis was performed by GC/FPD.	0.03	---	---	N.D.
Tributyl Tin(TBT)	ppm	With reference to 89/677/EEC & DIN 38407. Analysis was performed by GC/FPD.	0.03	---	---	N.D.

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Date : 2006/01/23

Page : 6 of 9

Test Item (s):	Unit	Method	MDL	Result		
				No.1	No.2	No.3
Formaldehyde(CAS No:000050-00-0)	ppm	With reference to DIN 53315 & USEPA 8315A. Analysis was performed by HPLC/DAD/MS	0.2	---	---	N.D.

Test Item (s):	Unit	Method	MDL	Result		
				No.1	No.2	No.3
Halogen		As per EN14582 method B.				
Halogen-Chlorine (Cl)(CAS No:007782-50-5)	ppm	Filling the oxygen and absorb solution in the flask and take sample in the flask and burn it, the absorb solution was analyzed by IC method.	50	---	---	N.D.
Halogen-Fluorine (F)(CAS No:007782-41-4)	ppm	Filling the oxygen and absorb solution in the flask and take sample in the flask and burn it, the absorb solution was analyzed by IC method.	50	---	---	N.D.
Halogen-Bromine (Br)(CAS No:007726-95-6)	ppm	Filling the oxygen and absorb solution in the flask and take sample in the flask and burn it, the absorb solution was analyzed by IC method.	50	---	---	N.D.
Halogen-Iodine (I)(CAS No:007553-56-2)	ppm	Filling the oxygen and absorb solution in the flask and take sample in the flask and burn it, the absorb solution was analyzed by IC method.	50	---	---	N.D.

Test Item (s):	Unit	Method	MDL	Result		
				No.1	No.2	No.3
PVC (CAS No:9002-86-2)	%	Analysis was performed by FTIR/ATR and Pyrolyzer-GC/MS.	1	---	---	Negative

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Report No. : CE/2006/13054

Date : 2006/01/23

Page : 7 of 9

Test Item (s):	Unit	Method	MDL	Result		
				No.1	No.2	No.3
PCBs(Polychlorinated Biphenyls)(CAS NO:001336-36-3)	ppm	With reference to USEPA 8082A. Analysis was performed by GC/MS or GC/ECD.	0.5	---	---	N.D.

Test Item (s):	Unit	Method	MDL	Result		
				No.1	No.2	No.3
Polychlorinated Naphthalene	ppm	With reference to 83/264/EEC & EPA 8270D. Analysis was performed by GC/MS.	5	---	---	N.D.

Test Item (s):	Unit	Method	MDL	Result		
				No.1	No.2	No.3
PCTs(Polychlorinated Terphenyls)	ppm	With reference to USEPA 8082A. Analysis was performed by GC/MS or GC/ECD.	0.5	---	---	N.D.

- NOTE: (1) N.D. = Not detected (<MDL)  
 (2) ppm = mg/kg  
 (3) MDL = Method Detection Limit  
 (4) Decabromodiphenyl ether (DecaBDE) in polymeric applications is exempted by Commission Decision of 13 Oct 2005 amending Directive 2002/95/EC notified under document 2005/717/EC.  
 (5) PBBEs=PBDEs=Polybrominated Diphenyl Ethers=PBDOs=PBBOs.  
 (6) " - " = Not Regulation  
 (7) \*\* = Qualitative analysis (No Unit)  
 (8) Negative = < 1.0 %, Positive = > 1.0 %  
 (9) The MDL is 5ppm for the single compound of CP  
 (10) " --- " = Not Applicable

## Test Report

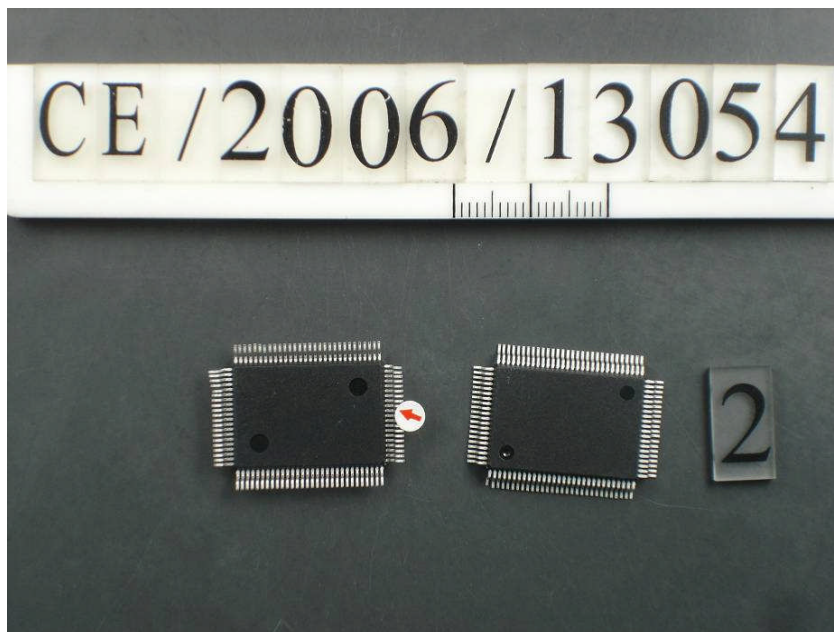
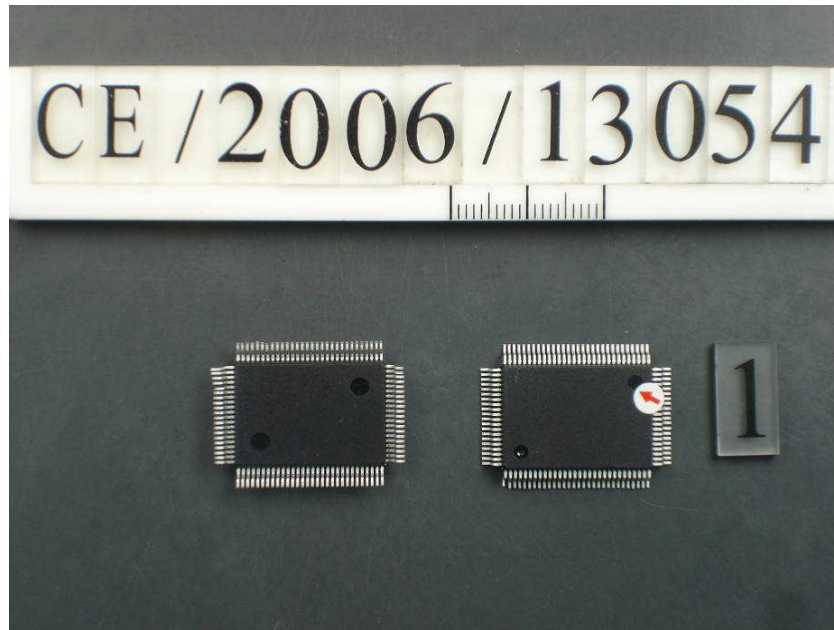
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Page : 8 of 9



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Page : 9 of 9

