Test Report

Report No. A218007042510102 Page 1 of 13

Applicant JIANGXI JIAWEICHENG ELECTRONIC TECHNOLOGY CO.,LTD.
WANNIAN COUNTY JIAHUI ELECTRONIC TECHNOLOGY CO.,LTD.
HUIZHOU JIAWEICHENG ELECTRONICS CO.,LTD.
DONGGUAN JIAQING ELECTRONICS CO.,LTD.
HUIZHOU JIAWEICHENG ELECTRONICS CO.,LTD. DONGGUAN QINGXI BRANCH
SHENZHEN XINGJIAWEICHENG ELECTRONIC CO.,LTD.

Address FENGSHOU INDUSTRIAL PARK, WANNIAN COUNTY, SHANGRAO CITY, JIANGXI, CHINA
FENGSHOU INDUSTRIAL PARK, WANNIAN COUNTY, SHANGRAO CITY, JIANGXI, CHINA
HUABIANLING INDUSTRIAL ZONE, XINLIAN VILLAGE, XINXU TOWN, HUIYANG DISTRICT, HUIZHOU CITY, GUANGDONG, CHINA
JINHAI INDUSTRIAL ZONE, XIEGANG TOWN, DONGGUAN CITY, GUANGDONG, CHINA
NO.5, BAILANG WEST STREET, FUGANG VILLAGE, QINGXING TOWN, DONGGUAN CITY, GUANGDONG, CHINA
ZHOUTENG INDUSTRIAL ZONE(一)1ST FLOOR, SHANGLILANG VILLAGE, LONGGANG DISTRICT, SHENZHEN, GUANGDONG, CHINA

Sample Received Date May 15, 2018
Testing Period May 15, 2018 to May 22, 2018

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), Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I), Perfluorooctanoic Acid (PFOA), Perfluorooctane Sulfonates (PFOS) in the submitted sample(s).

Test Method/Test Result(s) Please refer to the following page(s).

Tested by Ada Zhang Reviewed by Tori Xia

Approved by Hill Zheng Date May 22, 2018

Hill Zheng
Technical Manager

No. R158921561

Test Report

The following sample(s) and sample information was/were submitted and identified by/on the behalf of the client

No.	Sample Name(s)	Material
001	DIP Model(PVC Sleeve) aluminum electrolytic capacitor	Positive foil
002	DIP Model(PVC Sleeve) aluminum electrolytic capacitor	Negative foil
003	DIP Model(PVC Sleeve) aluminum electrolytic capacitor	Guide pin (Aluminum wire)
004	DIP Model(PVC Sleeve) aluminum electrolytic capacitor	Guide pin (CP wire)
005	DIP Model(PVC Sleeve) aluminum electrolytic capacitor	Aluminum shell
006	DIP Model(PVC Sleeve) aluminum electrolytic capacitor	Electrolytic paper
007	DIP Model(PVC Sleeve) aluminum electrolytic capacitor	Rubber plug
008	DIP Model(PVC Sleeve) aluminum electrolytic capacitor	Electrolyte
009	DIP Model(PVC Sleeve) aluminum electrolytic capacitor	PVC Sleeve

Test Report

Test Method

Tested Item(s)	Test Method	Measured Equipment(s)
Lead(Pb)	IEC 62321-5:2013	ICP-OES
Cadmium(Cd)	IEC 62321-5:2013	ICP-OES
Mercury(Hg)	IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
Hexavalent Chromium(Cr(VI))	IEC 62321-7-2:2017 and/or determination of Total Chromium by IEC 62321-5:2013	UV-Vis/ICP-OES
	IEC 62321-7-1:2015	UV-Vis
Polybrominated Biphenyls(PBBs)	IEC 62321-6:2015	GC-MS
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS
Fluorine (F)	Refer to EN 14582:2016	IC
Chlorine (Cl)	Refer to EN 14582:2016	IC
Bromine (Br)	Refer to EN 14582:2016	IC
Iodine (I)	Refer to EN 14582:2016	IC
Perfluorooctanoic Acid (PFOA)	Refer to US EPA 3550C:2007 & US EPA 8321B:2007	LC-MS-MS
Perfluorooctane Sulfonates (PFOS)	Refer to US EPA 3550C:2007 & US EPA 8321B:2007	LC-MS-MS

Test Result(s)

Tested Item(s)	**Result**			**MDL**
	001	**002**	**003**	
Lead (Pb)	N.D.	N.D.	N.D.	2 mg/kg
Cadmium (Cd)	N.D.	N.D.	N.D.	2 mg/kg
Mercury (Hg)	N.D.	N.D.	N.D.	2 mg/kg
Hexavalent Chromium (Cr(VI))	--	--	--	8 mg/kg
	N.D.▼	N.D.▼	N.D.▼	0.10 μg/cm² (LOQ)

Test Report

Tested Item(s)	Result			MDL
	004	005	006	
Lead (Pb)	N.D.	N.D.	N.D.	2 mg/kg
Cadmium (Cd)	N.D.	N.D.	N.D.	2 mg/kg
Mercury (Hg)	N.D.	N.D.	N.D.	2 mg/kg
Hexavalent Chromium (Cr(VI))	--	--	N.D.	8 mg/kg
	N.D.▼	N.D.▼	--	0.10 µg/cm² (LOQ)

Tested Item(s)	Result			MDL
	007	008	009	
Lead (Pb)	N.D.	N.D.	N.D.	2 mg/kg
Cadmium (Cd)	N.D.	N.D.	N.D.	2 mg/kg
Mercury (Hg)	N.D.	N.D.	N.D.	2 mg/kg
Hexavalent Chromium (Cr(VI))	N.D.	N.D.	N.D.	8 mg/kg
	--	--	--	0.10 µg/cm² (LOQ)

Tested Item(s)	Result			MDL
	006	007	008	
Polybrominated Biphenyls(PBBs)				
Monobromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Dibromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Tribromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Tetrabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Pentabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Hexabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Heptabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Octabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Nonabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg
Decabromobiphenyl	N.D.	N.D.	N.D.	5 mg/kg

Test Report

Tested Item(s)	Result	MDL
	009	
Polybrominated Biphenyls(PBBs)		
Monobromobiphenyl	N.D.	5 mg/kg
Dibromobiphenyl	N.D.	5 mg/kg
Tribromobiphenyl	N.D.	5 mg/kg
Tetrabromobiphenyl	N.D.	5 mg/kg
Pentabromobiphenyl	N.D.	5 mg/kg
Hexabromobiphenyl	N.D.	5 mg/kg
Heptabromobiphenyl	N.D.	5 mg/kg
Octabromobiphenyl	N.D.	5 mg/kg
Nonabromobiphenyl	N.D.	5 mg/kg
Decabromobiphenyl	N.D.	5 mg/kg

Tested Item(s)	Result			MDL
	006	007	008	
Polybrominated Diphenyl Ethers (PBDEs)				
Monobromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
Dibromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
Tribromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
Tetrabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
Pentabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
Hexabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
Heptabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
Octabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
Nonabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg
Decabromodiphenyl ether	N.D.	N.D.	N.D.	5 mg/kg

Test Report

Tested Item(s)	Result	MDL
	009	
Polybrominated Diphenyl Ethers (PBDEs)		
Monobromodiphenyl ether	N.D.	5 mg/kg
Dibromodiphenyl ether	N.D.	5 mg/kg
Tribromodiphenyl ether	N.D.	5 mg/kg
Tetrabromodiphenyl ether	N.D.	5 mg/kg
Pentabromodiphenyl ether	N.D.	5 mg/kg
Hexabromodiphenyl ether	N.D.	5 mg/kg
Heptabromodiphenyl ether	N.D.	5 mg/kg
Octabromodiphenyl ether	N.D.	5 mg/kg
Nonabromodiphenyl ether	N.D.	5 mg/kg
Decabromodiphenyl ether	N.D.	5 mg/kg

Tested Item(s)	Result			MDL
	006	007	008	
Phthalates (DBP, BBP, DEHP, DIBP)				
Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	N.D.	N.D.	50 mg/kg
Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	N.D.	N.D.	50 mg/kg
Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	N.D.	N.D.	50 mg/kg
Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	N.D.	N.D.	50 mg/kg

Tested Item(s)	Result	MDL
	009	
Phthalates (DBP, BBP, DEHP, DIBP)		
Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	50 mg/kg
Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	50 mg/kg
Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	50 mg/kg
Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	50 mg/kg

Test Report

Tested Item(s)	Result			MDL
	006	007	008	
Fluorine (F)	N.D.	N.D.	N.D.	10 mg/kg
Chlorine (Cl)	N.D.	N.D.	N.D.	10 mg/kg
Bromine (Br)	N.D.	N.D.	N.D.	10 mg/kg
Iodine (I)	N.D.	N.D.	N.D.	10 mg/kg

Tested Item(s)	Result	MDL
	009	
Fluorine (F)	N.D.	10 mg/kg
Chlorine (Cl)	387792 mg/kg*	10 mg/kg
Bromine (Br)	N.D.	10 mg/kg
Iodine (I)	N.D.	10 mg/kg

Tested Item(s)	Result				MDL
	006	007	008	009	
Perfluorooctanoic Acid (PFOA)	N.D.	N.D.	N.D.	N.D.	0.01 mg/kg

Tested Item(s)	Result				MDL
	006	007	008	009	
Perfluorooctane Sulfonates (PFOS)	N.D.	N.D.	N.D.	N.D.	0.01 mg/kg

Tested Sample/Part Description

001 Gray metal foil
002 Gray metal foil
003 Silver-white metal
004 Metal pin with silvery plating
005 Silver-white metal
006 Beige-white paper
007 Black rubber
008 Yellow liquid
009 Mixed test, green plastic tube with golden printing, purple plastic tube with white printing, orange plastic tube with black printing and black plastic tube with white printing#

Test Report

Remark: **The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.**

-MDL = Method Detection Limit

-N.D. = Not Detected (<MDL or LOQ)

-mg/kg = ppm = parts per million

-LOQ = Limit of Quantification, The LOQ of Hexavalent chromium is 0.10 μg/cm^2

-▼The sample is negative for Cr(VI) − The Cr(VI) concentration is below 0.10 μg/cm^2. The coating is considered a non-Cr(VI) based coating.

-# As specified by client, the test was conducted by mixing several samples together. The result(s) shown on this report may be different from the content of any homogeneous material.

-*The test result is for reference only.

-According to the client's statement, the material of sample 001 in this report is the same as the sample 001 in report No. A218007042510101, so the test result(s) of sample 001 is(are) presented in reference to that one.

-According to the client's statement, the material of sample 002 in this report is the same as the sample 002 in report No. A218007042510101, so the test result(s) of sample 002 is(are) presented in reference to that one.

-According to the client's statement, the material of sample 003 in this report is the same as the sample 003 in report No. A218007042510101, so the test result(s) of sample 003 is(are) presented in reference to that one.

-According to the client's statement, the material of sample 004 in this report is the same as the sample 004 in report No. A218007042510101, so the test result(s) of sample 004 is(are) presented in reference to that one.

-According to the client's statement, the material of sample 005 in this report is the same as the sample 005 in report No. A218007042510101, so the test result(s) of sample 005 is(are) presented in reference to that one.

-According to the client's statement, the material of sample 006 in this report is the same as the sample 006 in report No. A218007042510101, so the test result(s) of sample 006 is(are) presented in reference to that one.

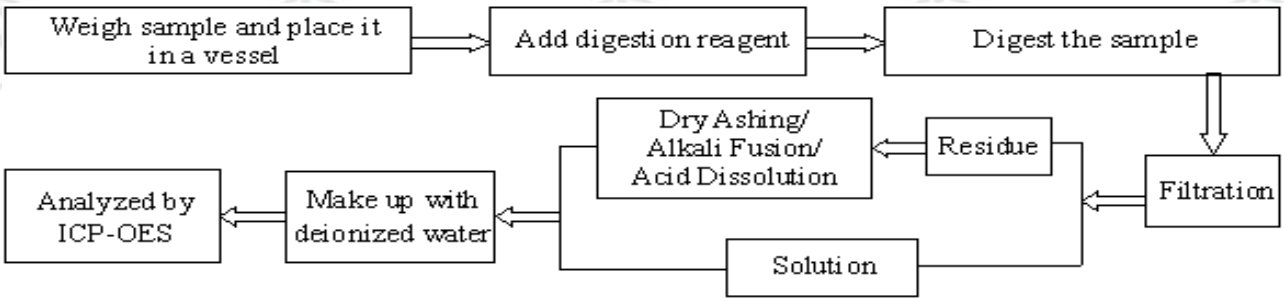
-According to the client's statement, the material of sample 007 in this report is the same as the sample 007 in report No. A218007042510101, so the test result(s) of sample 007 is(are) presented in reference to that one.

-According to the client's statement, the material of sample 008 in this report is the same as the sample 008 in report No. A218007042510101, so the test result(s) of sample 008 is(are) presented in reference to that one.

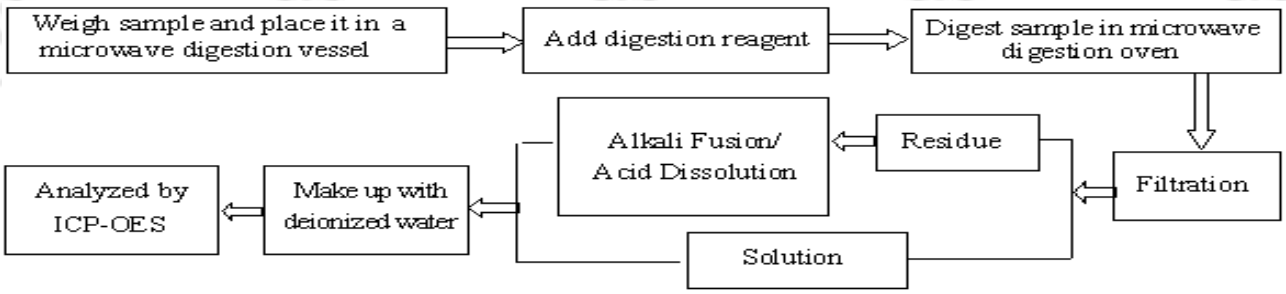
Test Report

Test Process

1. Lead(Pb), Cadmium(Cd), Chrominu(Cr)

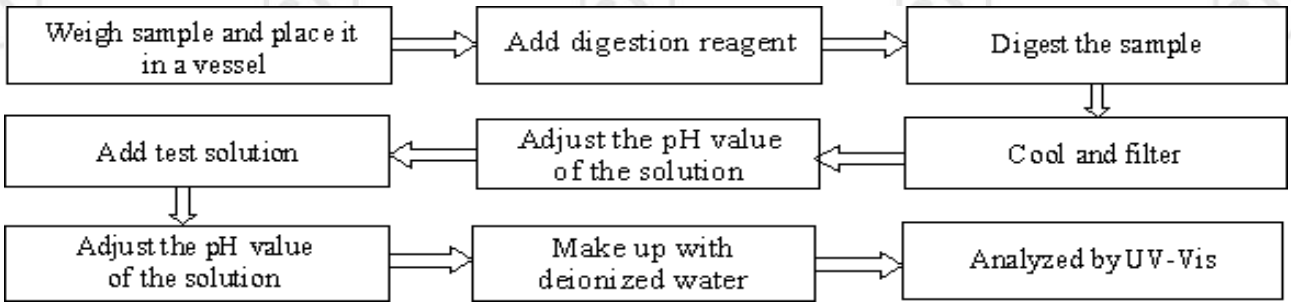


2. Mercury(Hg)

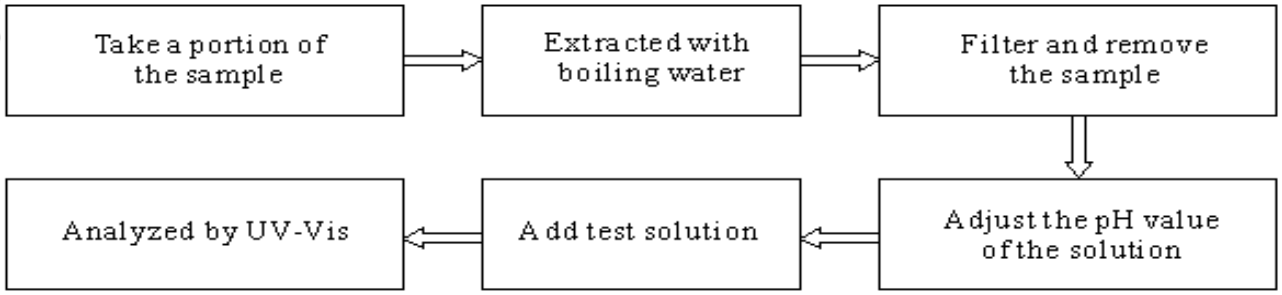


3. Hexavalent Chromium(Cr(VI))

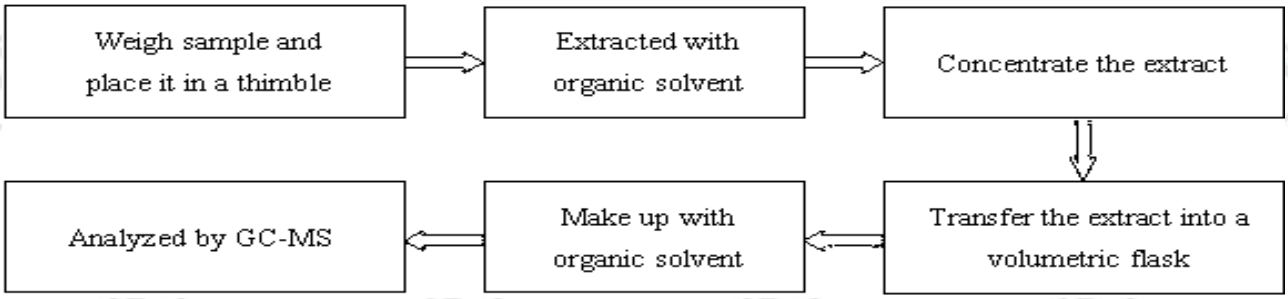
(1) IEC 62321-7-2:2017



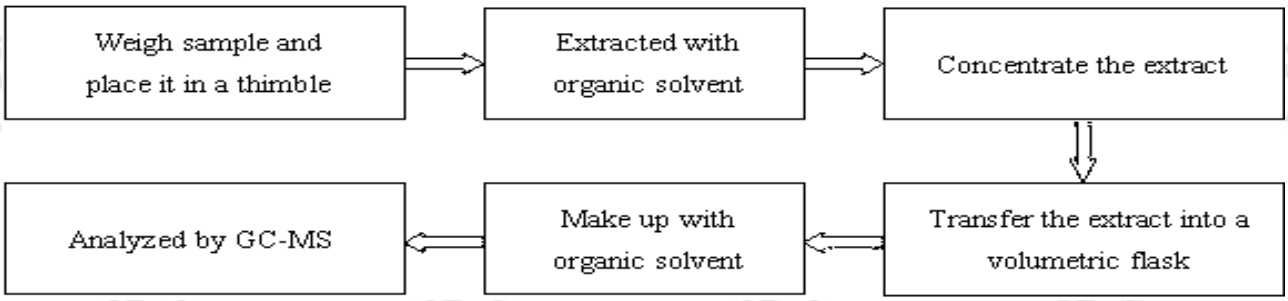
(2) IEC 62321-7-1:2015



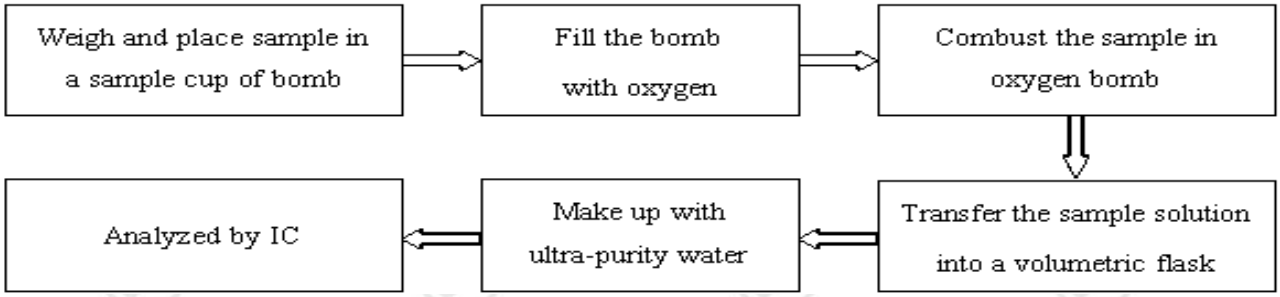
4. Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers (PBDEs)



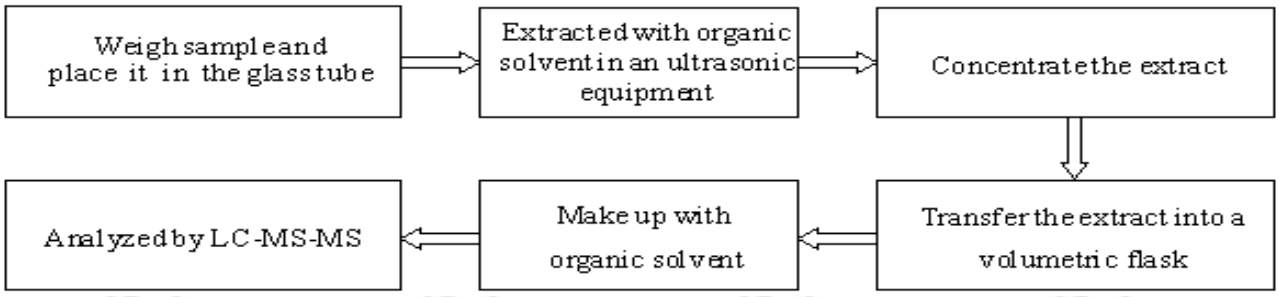
5. Phthalates (DBP, BBP, DEHP, DIBP)



6. Fluorine (F),Chlorine (Cl), Bromine (Br),Iodine (I)



7. Perfluorooctanoic Acid (PFOA),Perfluorooctane Sulfonates (PFOS)



Test Report

Photo(s) of the sample(s)

Final Product

001

002

003

Test Report

004

005

006

007

008

009

*** End of Report ***

Statement:

1. This report is considered invalidated without approval signature, special seal and the seal on the perforation;
2. The sample(s) and sample information was/were provided by the client who should be responsible for the authenticity which CTI hasn't verified;
3. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Without written approval of CTI, this report can't be reproduced except in full;
5. In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.