

TEST REPORT

Applicant: ShenZhen Jingguanghua Crystal Co., Ltd
Address: 7P sed yayuan, sed industrial park, huafa north road, futian district, shenzhen

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

Product name: Metal SMD patch
Model: SMD3225
Serial model: SMD7050, SMD6035, SMD5032, SMD2520, SMD2016, SMD1612
Supplier: ShenZhen Jingguanghua Crystal Co., Ltd

Sample Received Date: Apr. 08, 2020
Testing Period: Apr. 08, 2020~ Apr. 16, 2020

Test Requirement:


1. As specified by client, to determine the Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls(PBBs), Polybrominated, Diphenyl Ethers(PBDEs), Bis-(2-ethylhexyl) Phthalate (DEHP), Benzyl butyl Phthalate (BBP), Dibutyl Phthalate (DBP) and Diisobutyl Phthalate(DIBP) contents in the submitted sample in accordance with ROHS directive 2011/65/EU and the amendment directive (EU) 2015/863.
2. As specified by client, to determine the Fluorine(F), Chlorine(Cl), Bromine(Br), Iodine(I) content in the submitted sample.

Conclusion:

Pass

Test Result(s): Please refer to the following page(s);

Test Method: Please refer to the following page(s);

Compiled by: 

Reviewed by: 

Approved by: 

Date: 2020-04-16

Test Result(s):
1.ROHS

Test item(s)	Limit ,mg/kg	Result(s), mg/kg
Lead(Pb)	≤1000	N.D.
Cadmium(Cd)	≤100	N.D.
Mercury(Hg)	≤1000	N.D.
Hexavalent Chromium(Cr VI)	≤1000	N.D.
Sum of PBBs	≤1000	N.D.
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.
Sum of PBDEs	≤1000	N.D.
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.
Bis-(2-ethylhexyl) Phthalate (DEHP)	≤1000	N.D.
Benzylbutyl Phthalate (BBP)	≤1000	N.D.
Dibutyl Phthalate (DBP)	≤1000	N.D.
Diisobutyl Phthalate(DIBP)	≤1000	N.D.

2. Halogen

Test item(s)	Result(s), mg/kg
Fluorine (F)	N.D.
Chlorine(Cl)	N.D.
Bromine (Br)	N.D.
Iodine(I)	N.D.

Sample Description:

Metal SMD patch (mixed test)

Notes: 1mg/kg=1ppm = 0.0001%

N.D. = Not Detected (<MDL)

MDL = Method Detection Limit

/=Not Regulated/ Not Applicable

Negative = Absence of Cr(VI), the detected Cr(VI) concentration is less than $0.10 \mu\text{g}/\text{cm}^2$.

Positive = Presence of Cr(VI), the detected Cr(VI) concentration is greater than $0.13 \mu\text{g}/\text{cm}^2$.

The result is considered to be inconclusive -The Cr(VI) concentration is between the $0.10 \mu\text{g}/\text{cm}^2$ and $0.13 \mu\text{g}/\text{cm}^2$. Unavoidable coating variations may influence the determination.

Because the storage condition and production date of the sample are not known, the test results of the sample of hexavalent chromium can only represent the state of hexavalent chromium in the samples tested.

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.

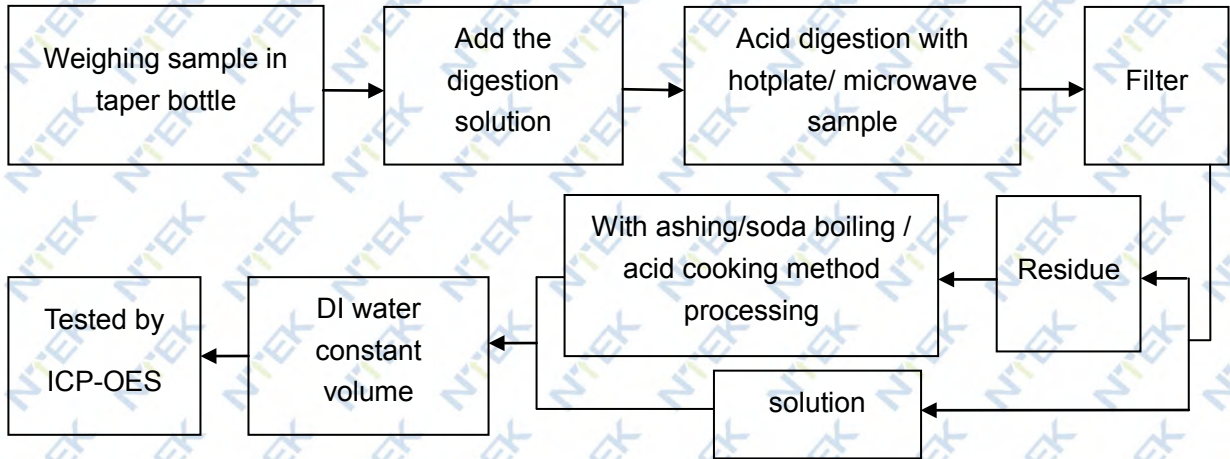
Test Method:

Test item	Test method	Test instrument	MDL
Lead(Pb)	IEC 62321-5:2013 Ed.1.0	ICP-OES	2 mg/kg
Cadmium(Cd)	IEC 62321-5:2013 Ed.1.0	ICP-OES	2 mg/kg
Mercury(Hg)	IEC 62321-4:2013 Ed.1.0	ICP-OES	2 mg/kg
Hexavalent Chromium (Cr(VI))	IEC 62321-7-1:2015 Ed.1.0	UV-Vis	0.10 $\mu\text{g}/\text{cm}^2$
	IEC 62321-7-2:2017 Ed.1.0		8mg/kg
Polybrominated Biphenyls(PBBs)	IEC 62321-6:2015 Ed.1.0	GC-MS	5 mg/kg
Polybrominated, Diphenyl Ethers(PBDEs)	IEC 62321-6:2015 Ed.1.0	GC-MS	5 mg/kg
Bis-(2-ethylhexyl) Phthalate (DEHP)	IEC 62321-8:2017 Ed.1.0	GC-MS	30 mg/kg
Benzylbutyl Phthalate (BBP)	IEC 62321-8:2017 Ed.1.0	GC-MS	30 mg/kg
Dibutyl Phthalate (DBP)	IEC 62321-8:2017 Ed.1.0	GC-MS	30 mg/kg
Diisobutyl Phthalate(DIBP)	IEC 62321-8:2017 Ed.1.0	GC-MS	30 mg/kg
Fluorine (F)	BS EN 14582:2016	IC	50mg/kg
Chlorine(Cl)			50mg/kg
Bromine (Br)			50mg/kg
Iodine(I)			50mg/kg

Test Flow:

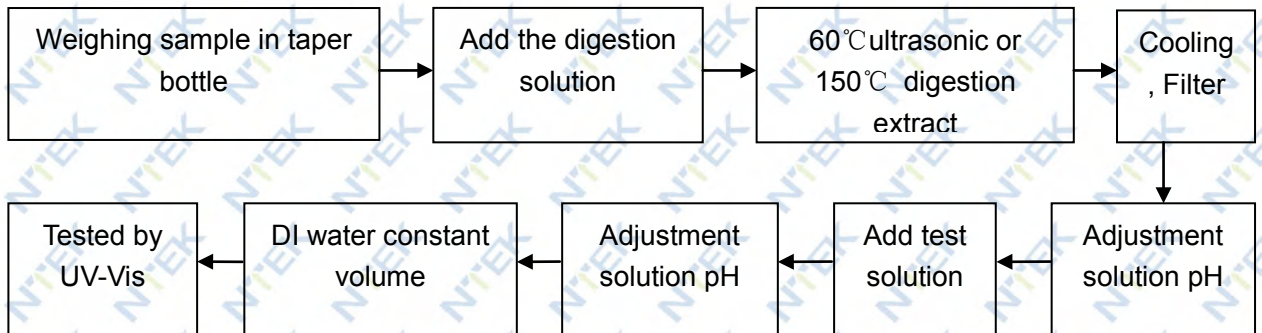
Tested by: Mic.li / Betty.wu

1. Lead(Pb), Cadmium(Cd), Mercury (Hg)

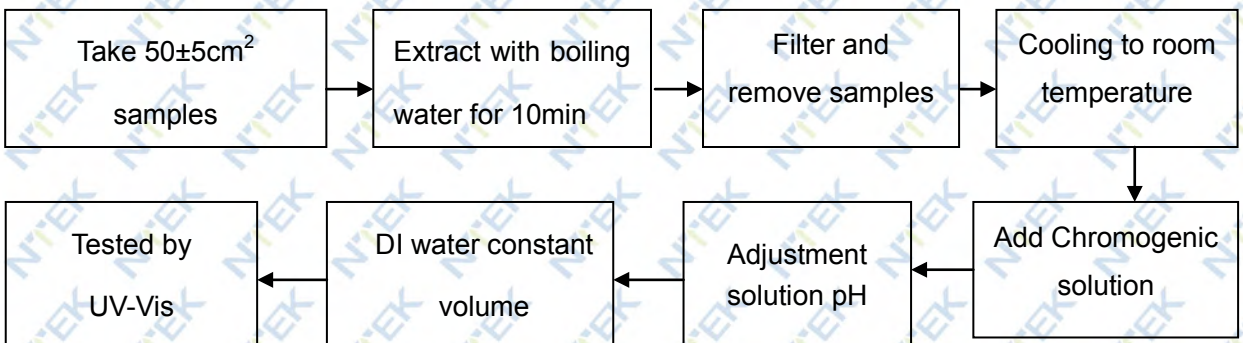


2. Hexavalent Chromium(Cr(VI))

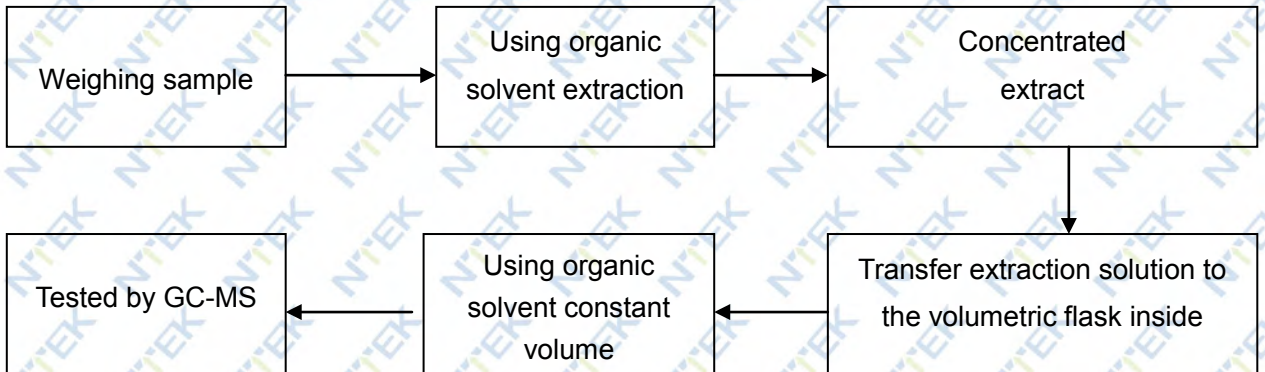
2.1 Non- metal sample(s)



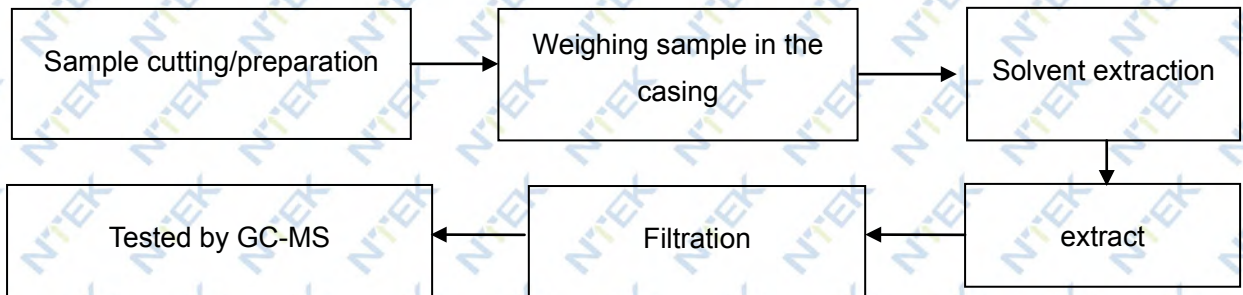
2.2 Metal sample(s)



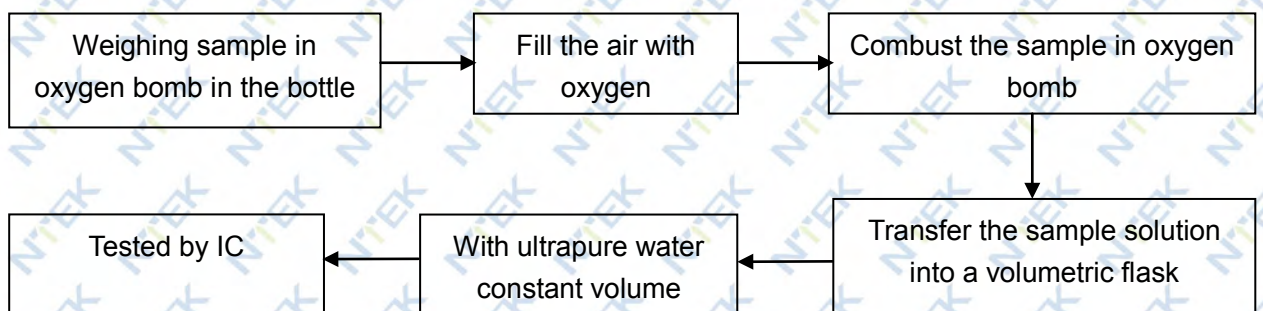
3. PBBs/ PBDEs



4. Phthalates



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



Sample photo(s):

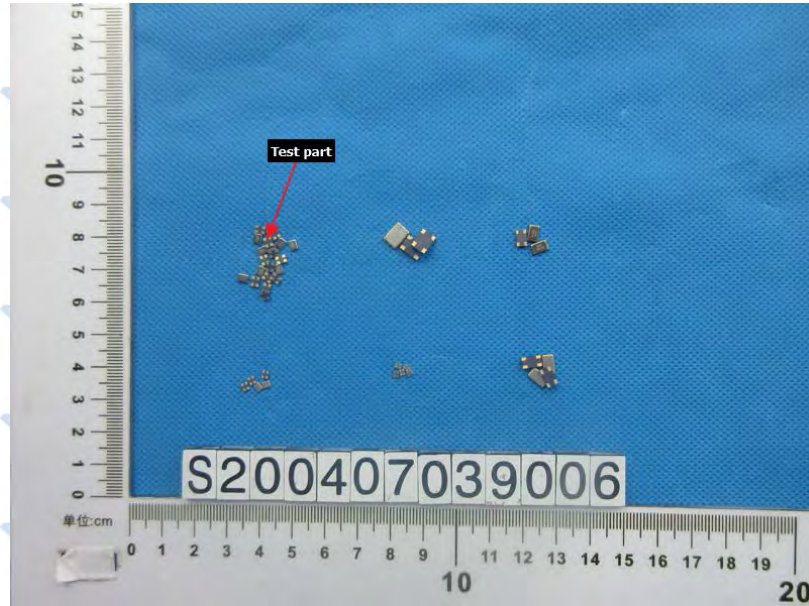


Fig.1

****End of Report****

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