Test Report

Report No. : SZC18102280441-1 Date: Oct. 25, 2018 Page 1 of 6

Applicant: FOSHAN BLUE ROCKET ELECTRONICS CO., LTD

Address: NO.45 GUXIN ROAD, CHANCHENG DISTRICT, FOSHAN, GUANGDONG, P.R.C.CHINA

Report on the submitted sample(s) said to be:

Sample Name:	Semiconductor Device
Sample Description:	1.Black body
	2.Silvery metal pin
Sample Model:	MBS（Solder Bonding）
Sample No.:	QT1810228044101
Sample Received Date:	Oct. 22, 2018
Testing Period:	Oct. 22, 2018 - Oct. 25, 2018

Test Requested: As specified by client, to determine the Pb, Cd, Hg, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP content in the submitted sample.

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

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

Conclusion: Based on the performed tests on submitted samples, the results of Pb, Cd, Hg, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP comply with the limits as set by EU RoHS Directive 2011/65/EU and its amendment Directive EU 2015/863.

Signed for and on behalf of HCT

Michael

Shenzhen Hongcai Testing Technology Co., Ltd. HCT (1)

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Test Result(s): Unit: mg/kg

Test Items	Test Method/ Equipment	MDL	Content	EU RoHS Directive 2011/65/EU and its amendment Directive EU 2015/863
			1	
Lead(Pb)	IEC 62321-5:2013. ICP-OES/AAS	2	25450#	1000
Cadmium(Cd)		2	N.D.	100
Mercury(Hg)	IEC 62321-4:2013 +AMD1:2017. ICP-OES	2	N.D.	1000
Hexavalent Chromium(Cr(VI))	IEC 62321-5:2013/ IEC 62321-7-2:2017. ICP-OES/AAS UV-VIS	8	N.D.	1000
Mono-bromobiphenyl	IEC 62321-6:2015. GC-MS	5	N.D.	—
Di-bromobiphenyl		5	N.D.	
Tri-bromobiphenyl		5	N.D.	
Tetra-bromobiphenyl		5	N.D.	
Penta-bromobiphenyl		5	N.D.	
Hexa-bromobiphenyl		5	N.D.	
Hepta-bromobiphenyl		5	N.D.	
Octa-bromobiphenyl		5	N.D.	
Nona-bromobiphenyl		5	N.D.	
Deca-bromobiphenyl		5	N.D.	
Polybrominated Biphenyls(PBBs)		—	N.D.	1000
Mono-bromodiphenyl ether		5	N.D.	—
Di-bromodiphenyl ether		5	N.D.	
Tri-bromodiphenyl ether		5	N.D.	
Tetra-bromodiphenyl ether		5	N.D.	
Penta-bromodiphenyl ether		5	N.D.	
Hexa-bromodiphenyl ether		5	N.D.	
Hepta-bromodiphenyl ether		5	N.D.	
Octa-bromodiphenyl ether		5	N.D.	
Nona-bromodiphenyl ether		5	N.D.	
Deca-bromodiphenyl ether		5	N.D.	
Polybrominated DiphenylEthers(PBDEs)		—	N.D.	1000

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Test Items	Test Method/Equipment	MDL	Content	EU RoHS Directive 2011/65/EU and its amendment Directive EU 2015/863
			1	
Dibutyl phthalate (DBP)	IEC 62321-8:2017, GC-MS	30	N.D.	1000
Butylbenzyl phthalate (BBP)		30	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP)		30	N.D.	1000
Di-iso-butyl phthalate(DIBP)		30	N.D.	1000

Test Items	Test Method/ Equipment	MDL	Content	EU RoHS Directive 2011/65/EU and its amendment Directive EU 2015/863
			2	
Lead(Pb)	IEC 62321-5:2013. ICP-OES/AAS	2	N.D.	1000
Cadmium(Cd)		2	N.D.	100
Mercury(Hg)	IEC 62321-4:2013 +AMD1:2017. ICP-OES	2	N.D.	1000

Test Item	Test Method/ Equipment	MDL ($\mu g/cm^2$)	Result ($\mu g/cm^2$)	Qualitative Result	EU RoHS Directive 2011/65/EU and its amendment Directive EU 2015/863
			2		
Hexavalent Chromium(Cr(VI))♦	IEC 62321-7-1:2015. UV-VIS	0.05	N.D.	Negative	—

Note:

mg/kg=ppm= parts per million

MDL=method detection limit

“—” =Not regulated

N.D.=not detected(less than method detection limit)

Results shown as N.D. are ignored in the sum calculation.

According to the declaration from the client, Lead(Pb) in specimen(s) is(are) exempted by EU RoHS Directive 2011/65/EU and its amendment Directive EU 2015/863 base on):

#7(a) Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead).)。

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The detected Chromium (Cr) content is "N.D.", therefore, the Hexavalent Chromium (Cr (VI)) content is "N.D.", No need for validation test of the Hexavalent Chromium (Cr (VI)).
If Chromium (Cr) content exceeds Hexavalent Chromium (Cr (VI)) method detection limit, Validation test of the Hexavalent Chromium (Cr (VI)) is required.

♦ = a. The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13μg/cm^2. The sample coating is considered to contain Cr(VI);
b. The sample is negative for Cr(VI) if Cr(VI) is ND (concentration less than 0.10μg/cm^2). The coating is considered a non-Cr(VI) based coating;
c. The result between 0.10μg/cm^2 and 0.13μg/cm^2 is considered to be inconclusive -unavoidable coating variations may influence the determination;
Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

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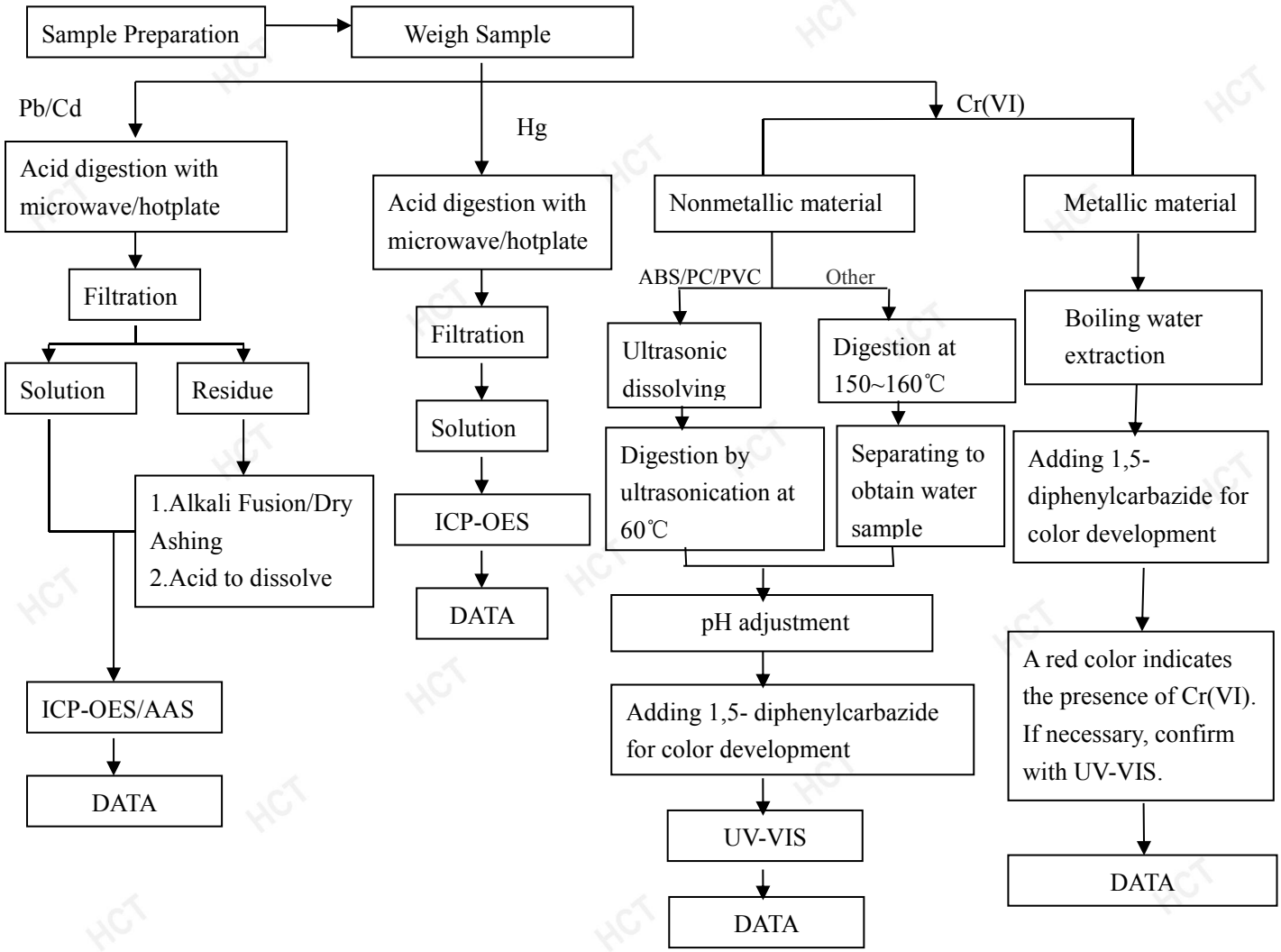
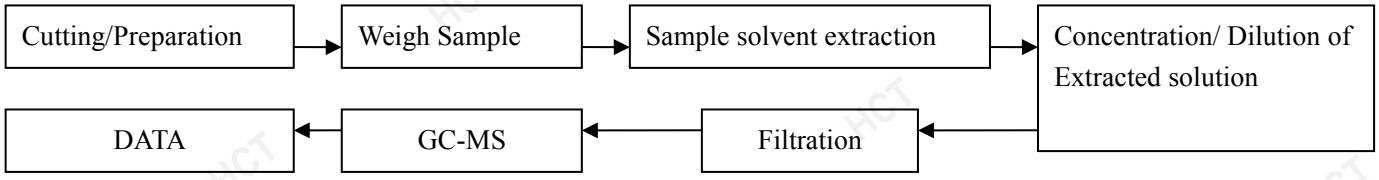
Test Flow Chart (Pb, Cd, Hg, Cr(VI), PBBs, PBDEs)



These sample were dissolved totally by pre-conditioning method according to above flow chart(Cr(VI) test method excluded)

PBBs/PBDEs



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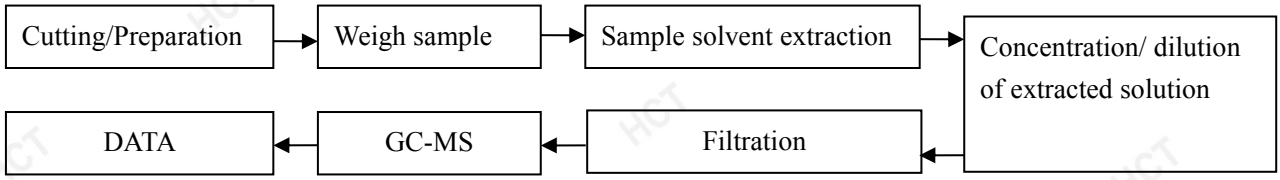
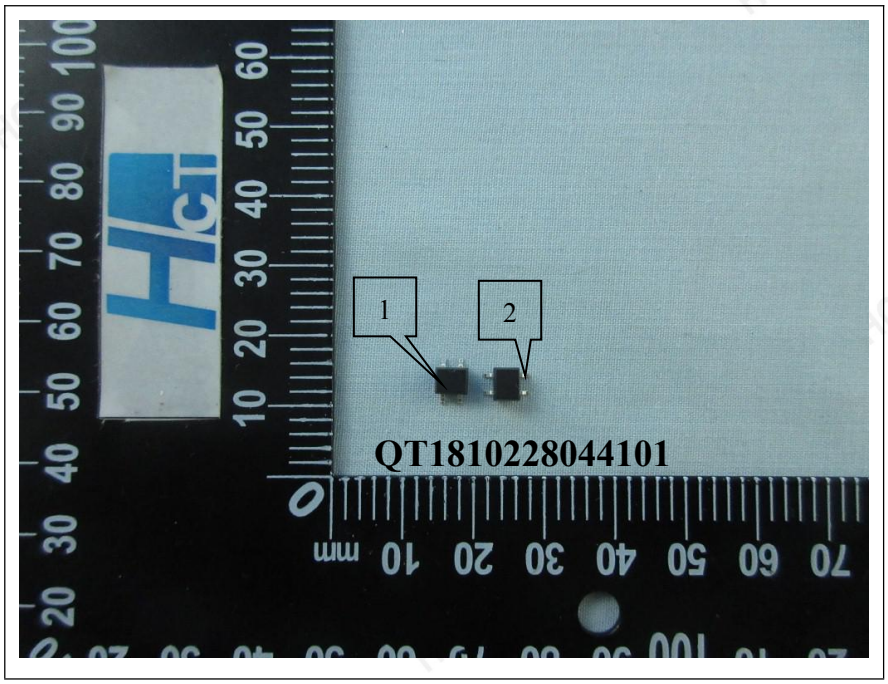
Test Flow Chart (DBP, BBP, DEHP, DIBP)



The photo of the sample



***End ***

This report will go into effect with HCT stamp. This report could not be revised. This report is only responsible for the test result of submitted samples. Without written authorization, any copy of this report for propaganda is invalid.