

Test Report

Report No. ECL03G000487

Page 1 of 12

Applicant JINLONG MACHINERY & ELECTRONICS CO.,LTD
Address JINLONG SCIENCE & TECHNOLOGY PARK, JIN GANG AVENUE,
BAIXIANG, YUEQING, ZHEJIANG

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

Product Name Solid Motor
Sample Name Please refer to the following page(s)
Sample Received Date Jun. 5, 2014
Testing Period Jun. 5, 2014 to Jun. 13, 2014

Test Requested As specified by client, to test Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyl(PBBs), Polybrominated Diphenyl Ethers(PBDEs), Fluorine(F), Chlorine(Cl), Bromine(Br), Iodine(I) in the submitted sample(s).

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

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

Tested by Sha Chen

Reviewed by Lin Zhang

Approved by Wei Miao

Date Jun. 13, 2014



Wei Miao
Approved Signatory

No. R138203520

Test Report

Report No. ECL03G000487

Page 2 of 12

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

No.	Product Name	Sample Name
1	Solid Motor	Bracket
2		Voltage dependent resistor
3		House
4		Communtator segments
5		Bearing
6		Terminal
7		Magnet
8		Counter weight
9		Shaft
10		Brush
11		Rotor iron core
12		Washer(red)
13		Washer(white)
14		Plastic
15		End cap
16		Bush
17		Enameled wire
18		FPC
19		FPC
20		FPC

Test Method

Tested Item(s)	Test Method	Measured Equipment(s)
Lead (Pb)	IEC 62321-5:2013 Ed.1.0	ICP-OES
Cadmium (Cd)	IEC 62321-5:2013 Ed.1.0	ICP-OES
Mercury (Hg)	IEC 62321-4:2013 Ed.1.0	ICP-OES
Hexavalent Chromium (Cr(VI))	IEC 62321:2008 Ed.1 Annex B	UV-Vis
	IEC 62321:2008 Ed.1 Annex C	
Polybrominated Biphenyls (PBBs)	IEC 62321:2008 Ed.1 Annex A	GC-MS
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321:2008 Ed.1 Annex A	GC-MS
Fluorine(F)	Refer to BS EN 14582:2007	IC
Chlorine(Cl)	Refer to BS EN 14582:2007	IC
Bromine(Br)	Refer to BS EN 14582:2007	IC
Iodine(I)	Refer to BS EN 14582:2007	IC

Test Report

Report No. ECL03G000487

Page 3 of 12

Test Result(s)

Tested Item(s)	Result(mg/kg)					MDL
	1	2	3	4	5	
Lead (Pb)	N.D.	N.D.	N.D.	21	N.D.	2 mg/kg
Cadmium (Cd)	N.D.	N.D.	N.D.	N.D.	N.D.	2 mg/kg
Mercury (Hg)	N.D.	N.D.	N.D.	N.D.	N.D.	2 mg/kg
Hexavalent Chromium (Cr(VI))	—	N.D.	—	—	—	2 mg/kg
	Negative	—	Negative	Negative	Negative	/

Tested Item(s)	Result(mg/kg)					MDL
	6	7	8	9	10	
Lead (Pb)	85	N.D.	N.D.	N.D.	22	2 mg/kg
Cadmium (Cd)	N.D.	N.D.	N.D.	N.D.	N.D.	2 mg/kg
Mercury (Hg)	N.D.	N.D.	N.D.	N.D.	N.D.	2 mg/kg
Hexavalent Chromium (Cr(VI))	—	N.D.	—	—	—	2 mg/kg
	Negative	—	Negative	Negative	Negative	/

Tested Item(s)	Result(mg/kg)					MDL
	11	12	13	14	15	
Lead (Pb)	N.D.	N.D.	N.D.	N.D.	N.D.	2 mg/kg
Cadmium (Cd)	N.D.	N.D.	N.D.	N.D.	N.D.	2 mg/kg
Mercury (Hg)	N.D.	N.D.	N.D.	N.D.	N.D.	2 mg/kg
Hexavalent Chromium (Cr(VI))	—	N.D.	N.D.	N.D.	N.D.	2 mg/kg
	Negative	—	—	—	—	/

Tested Item(s)	Result(mg/kg)					MDL
	16	17	18	19	20	
Lead (Pb)	N.D.	8	N.D.	N.D.	265	2 mg/kg
Cadmium (Cd)	N.D.	N.D.	N.D.	N.D.	N.D.	2 mg/kg
Mercury (Hg)	N.D.	N.D.	N.D.	N.D.	N.D.	2 mg/kg
Hexavalent Chromium (Cr(VI))	N.D.	N.D.	N.D.	—	—	2 mg/kg
	—	—	—	Negative	Negative	/

Test Report

Report No. ECL03G000487

Page 4 of 12

Test Result(s)

Tested Item(s)	Result(mg/kg)				MDL
	11	12	13	14	
Polybrominated Biphenyls(PBBs)					
Monobromobiphenyl	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Dibromobiphenyl	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Tribromobiphenyl	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Tetrabromobiphenyl	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Pentabromobiphenyl	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Hexabromobiphenyl	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Heptabromobiphenyl	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Octabromobiphenyl	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Nonabromobiphenyl	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Decabromobiphenyl	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Polybrominated Diphenyl Ethers(PBDEs)					
Monobromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Dibromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Tribromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Tetrabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Pentabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Hexabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Heptabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Octabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Nonabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Decabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	5 mg/kg

Test Report

Report No. ECL03G000487

Page 5 of 12

Test Result(s)

Tested Item(s)	Result(mg/kg)				MDL
	15	16	17	18	
Polybrominated Biphenyls(PBBs)					
Monobromobiphenyl	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Dibromobiphenyl	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Tribromobiphenyl	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Tetrabromobiphenyl	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Pentabromobiphenyl	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Hexabromobiphenyl	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Heptabromobiphenyl	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Octabromobiphenyl	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Nonabromobiphenyl	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Decabromobiphenyl	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Polybrominated Diphenyl Ethers(PBDEs)					
Monobromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Dibromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Tribromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Tetrabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Pentabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Hexabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Heptabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Octabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Nonabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Decabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	5 mg/kg

Test Report

Report No. ECL03G000487

Page 6 of 12

Test Result(s)

Tested Item(s)	Result(mg/kg)				MDL
	11	12	13	14	
Halogen(s)					
Fluorine(F)	N.D.	1091	1204	1404	10 mg/kg
Chlorine(Cl)	N.D.	N.D.	N.D.	N.D.	10 mg/kg
Bromine(Br)	N.D.	N.D.	N.D.	N.D.	10 mg/kg
Iodine(I)	N.D.	N.D.	N.D.	N.D.	10 mg/kg

Tested Item(s)	Result(mg/kg)				MDL
	15	16	17	18	
Halogen(s)					
Fluorine(F)	642	798	N.D.	203	10 mg/kg
Chlorine(Cl)	N.D.	N.D.	N.D.	304	10 mg/kg
Bromine(Br)	N.D.	N.D.	N.D.	N.D.	10 mg/kg
Iodine(I)	N.D.	N.D.	N.D.	N.D.	10 mg/kg

Tested Sample/Part Description

- 1 Metal with silvery plating
- 2 Voltage dependent resistor(Tested as a whole)[#]
- 3 Metal with silvery plating
- 4 Metal with yellow stripe
- 5 Cupreous metal
- 6 Metal with silvery plating
- 7 Black magnet
- 8 Silver-grey metal
- 9 Silvery metal
- 10 Metal with silvery cover layer
- 11 Metal with black cover layer
- 12 Red plastic
- 13 Beige-yellow plastic
- 14 Beige-yellow plastic
- 15 Black plastic
- 16 Black plastic
- 17 Cupreous enamelled wire
- 18 FPC(Tested as a whole)[#]
- 19 Silvery metal
- 20 Silvery metal

Test Report

Report No. ECL03G000487

Page 7 of 12

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

#=The sample(s) was tested as a whole, because it's impossible to disassemble or separate it by current equipment and technology. The result(s) shown on this report may be different from the content of any homogeneous material.

-MDL = Method Detection Limit

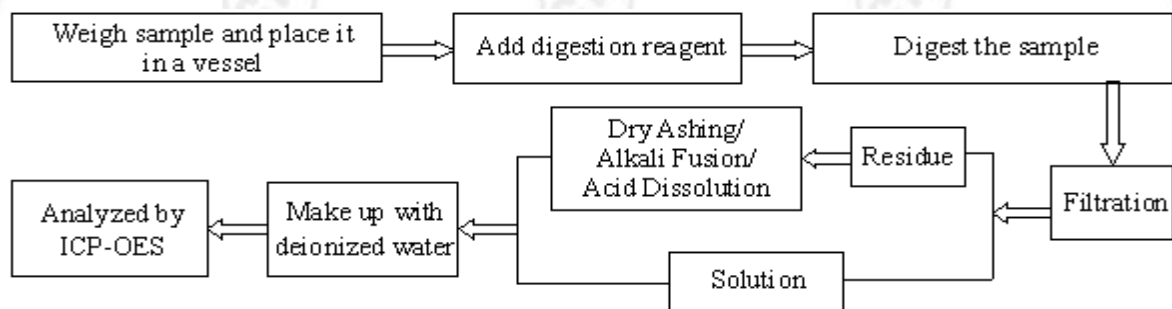
-N.D. = Not Detected (<MDL)

-mg/kg = ppm = parts per million

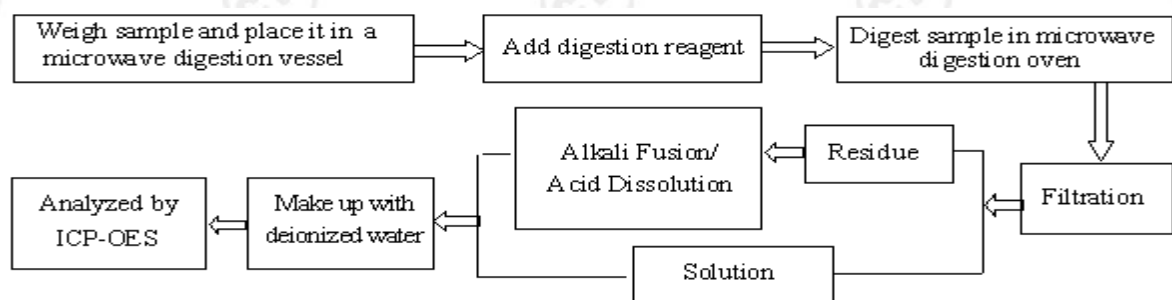
-Negative = Absence of Cr(VI), the detected Cr(VI) concentration in the boiling water extraction solution is less than 0.02 mg/kg with 50cm² sample surface area used.

Test Process

1. Cadmium (Cd), Lead (Pb)

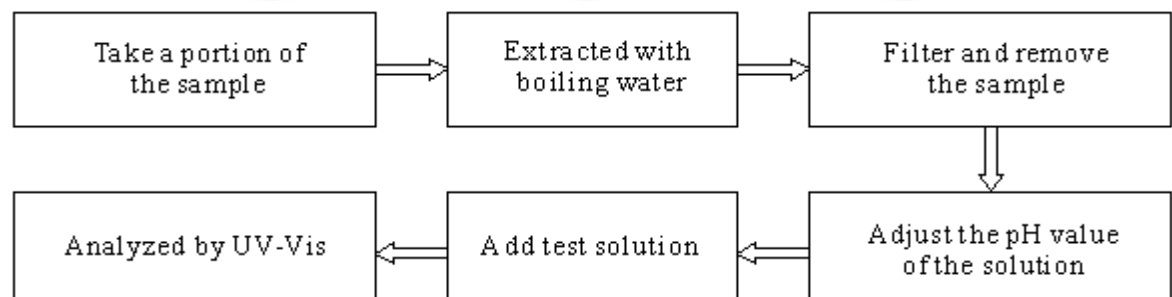


2. Mercury (Hg)



3. Hexavalent Chromium(Cr(VI))

IEC 62321:2008 Ed.1 Annex B

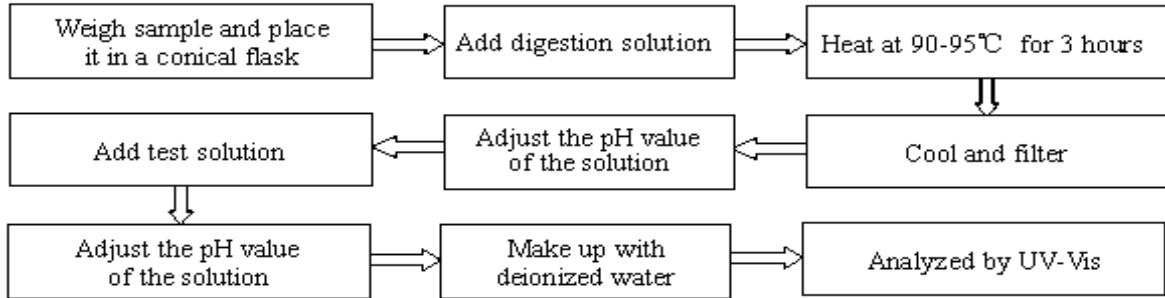


Test Report

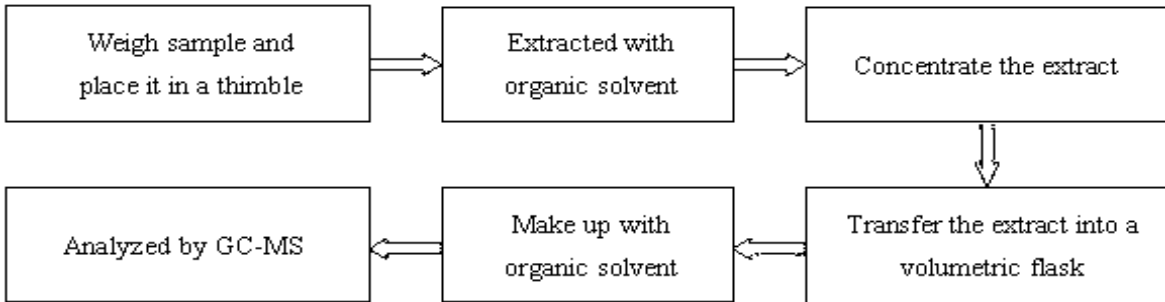
Report No. ECL03G000487

Page 8 of 12

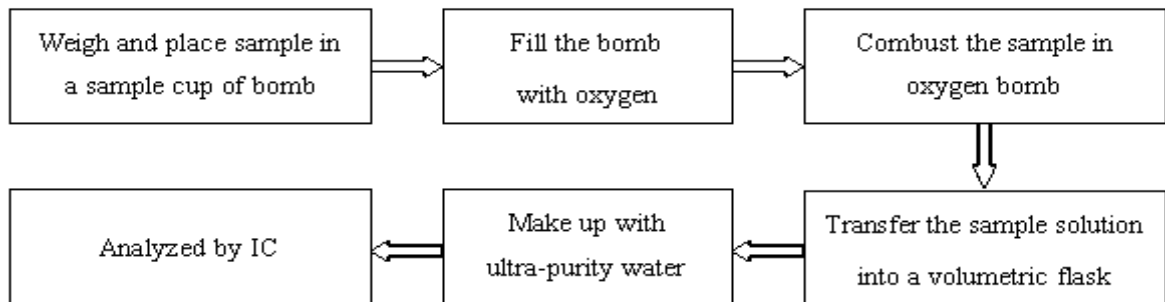
IEC 62321:2008 Ed.1 Annex C



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



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

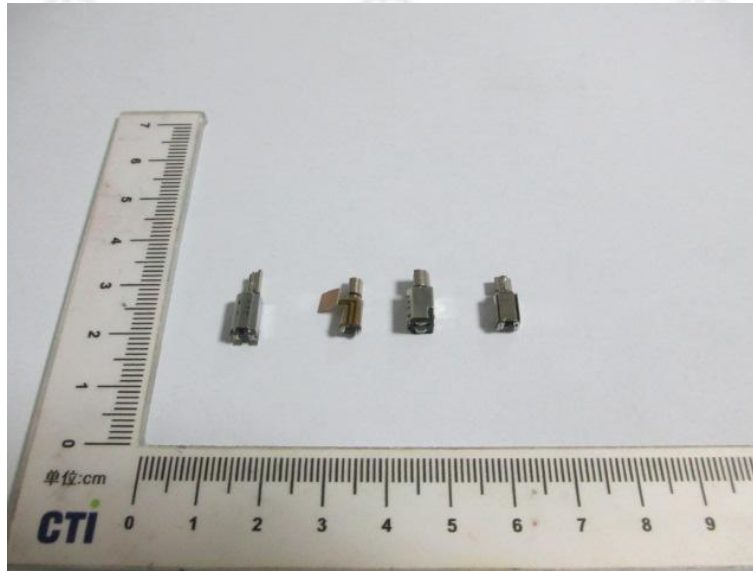


Test Report

Report No. ECL03G000487

Page 9 of 12

Photo(s) of the Product(s)

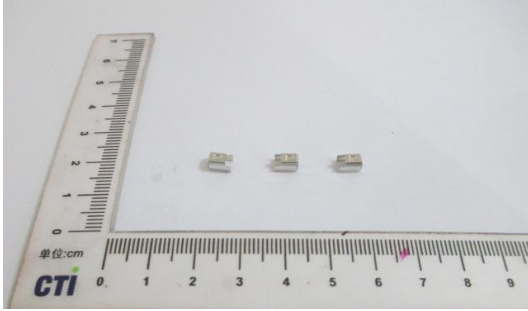


Test Report

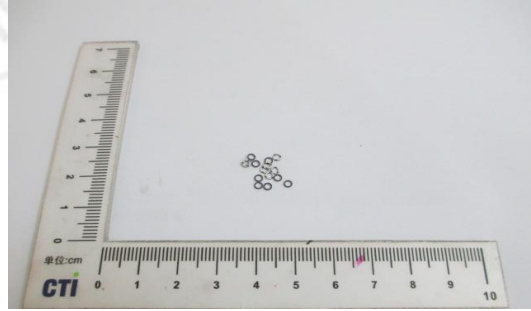
Report No. ECL03G000487

Page 10 of 12

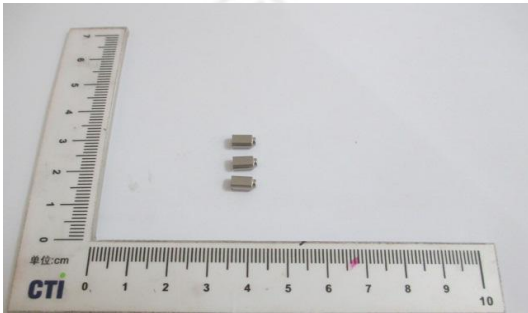
Photo(s) of the sample(s)



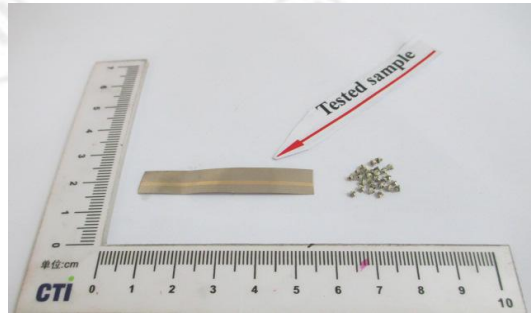
1



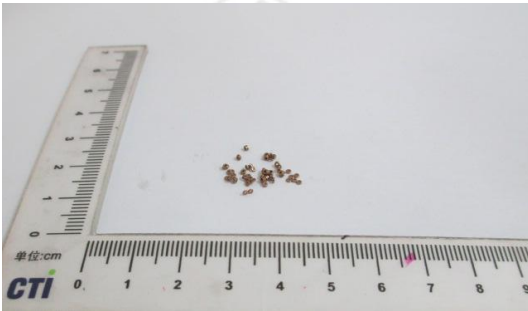
2



3



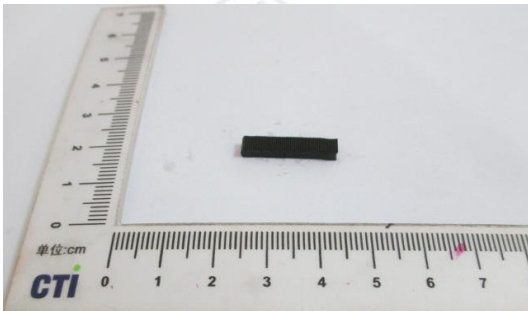
4



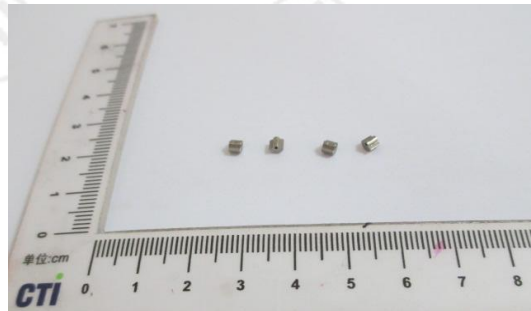
5



6



7

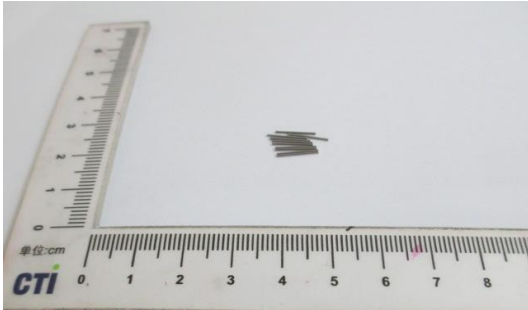


8

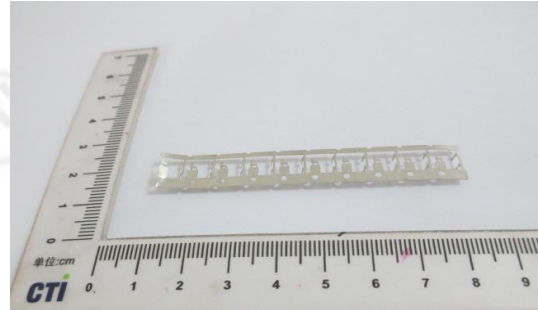
Test Report

Report No. ECL03G000487

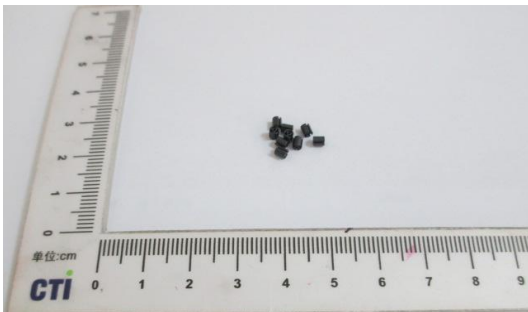
Page 11 of 12



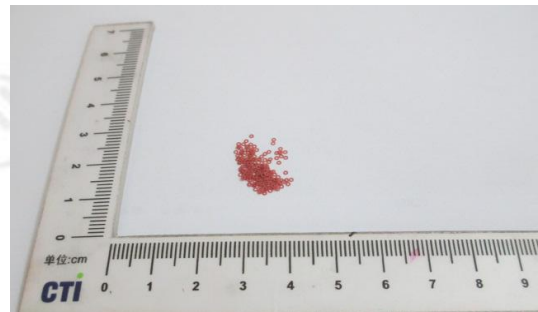
9



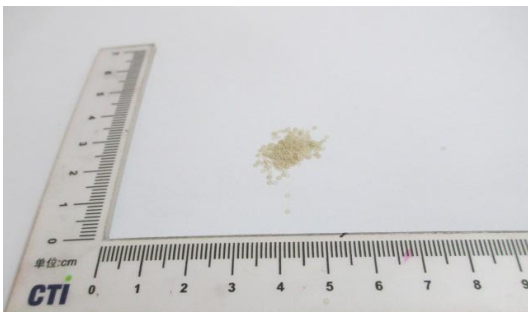
10



11



12



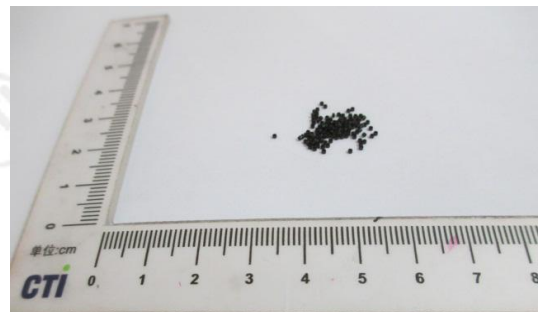
13



14



15



16

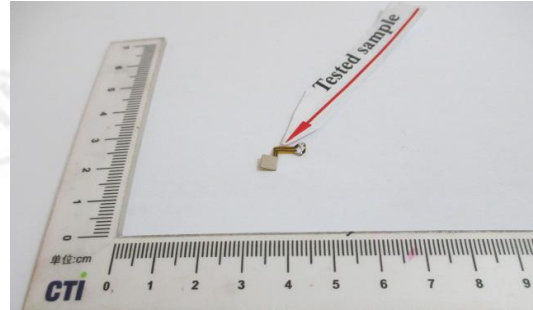
Test Report

Report No. ECL03G000487

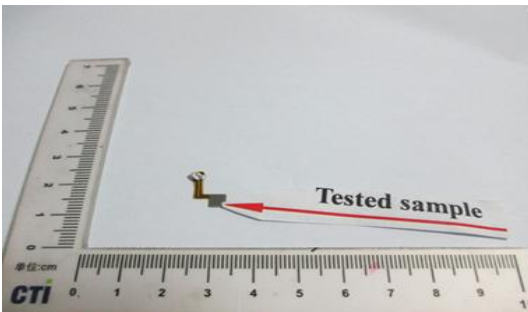
Page 12 of 12



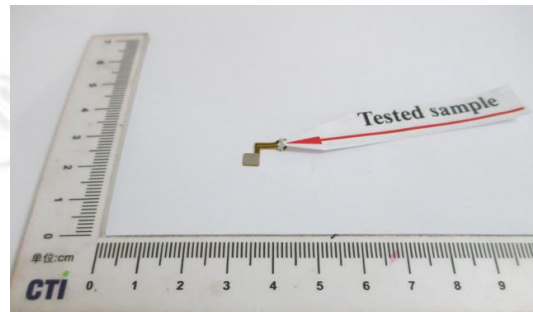
17



18



19



20

*** End of report ***

The test report is effective only with both signature and specialized stamp. The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.