



中国认可  
国际互认  
检测  
TESTING  
CNAS L0095

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## TEST REPORT

No.: RZRS2017-0232

Client : JF Polymers (Suzhou) Co. Ltd.  
: Address: Haicheng Industrial Park, Bldg 7, Changshu Economic and  
: Technological Zone, Changshu, Jiangsu, China

Receiving Date : June 15, 2017      Completing Date : July 28, 2017

Test Sample : Polybox      Type/Model : PB01

Sample Description : Trademark: Polymaker

Test Items : The content of Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs,  
PBDEs, DEHP, BBP, DBP, DIBP

Test According : IEC 62321-2:2013, IEC 62321-3-1:2013, IEC 62321-4:2013, IEC  
62321-5:2013, IEC 62321-6:2015, IEC 62321-7-1:2015, CPSC-CH-C1001-09.3

Test Conclusion : The results data of the tested items comply with the limited value in Directive  
2011/65/EU and its amendment Directive (EU) 2015/863.

Description of the deviation from the standard, if any: : No deviation

Lu Yating

Xiao Li

Xia Qingyun

Tested by: *Lu YaTing*

Reviewed by: *Xiao Li*

Approved by: *Xia Qingyun*

Date of issue: August 16, 2017

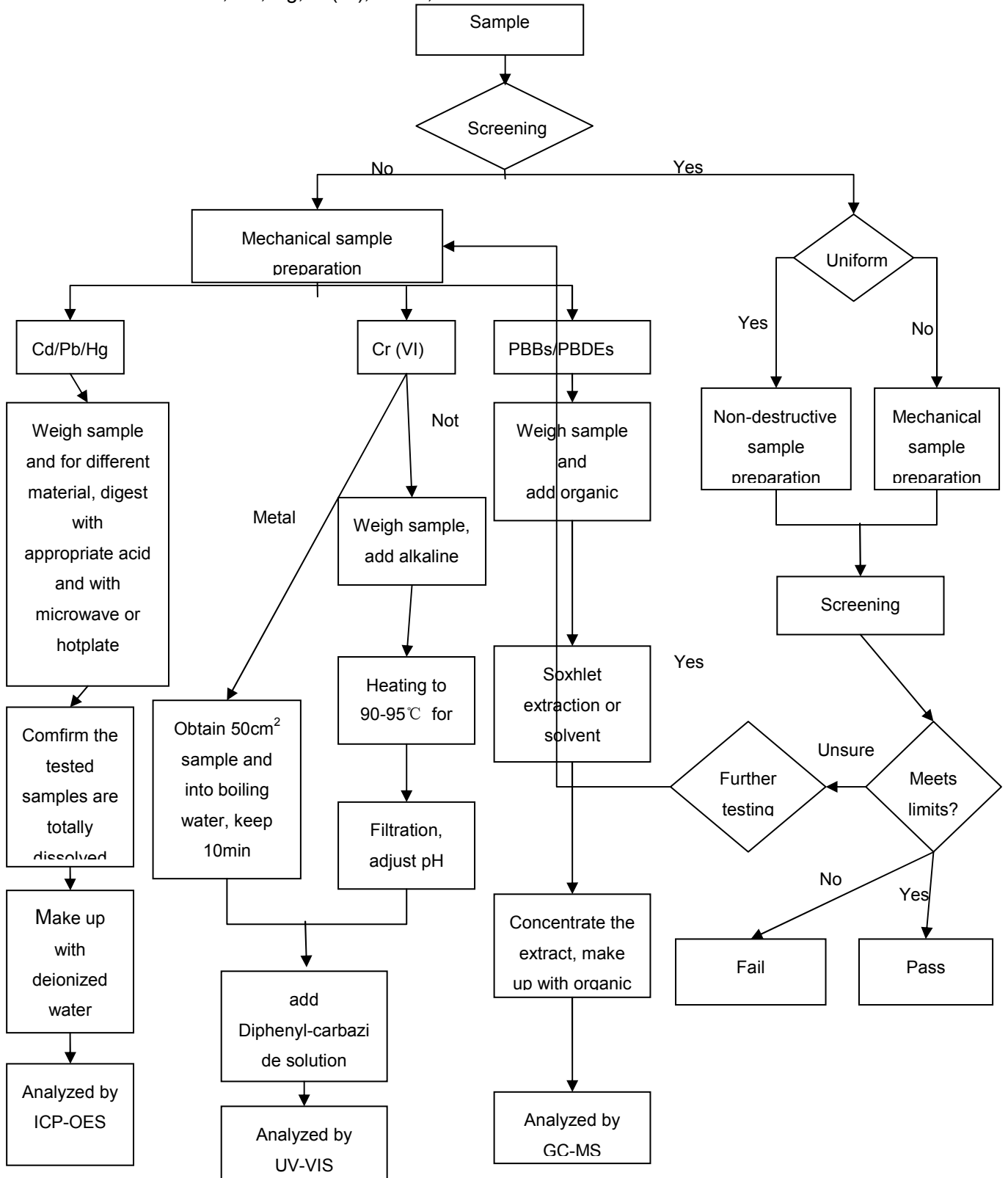
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<b>List of Apparatus</b>					
No.	Test Instrument	Type	Number	Period of Calibration Validity	Used (√)
1.	X-ray fluorescence spectrometer	NDA 300	VGDY-0219	2017.07.10-2018.07.09	√
2.	Analytical Balance	XS204	VGDY-0127	2017.04.14-2018.04.13	√
3.	Inductively Coupled Plasma Optical Emissions Spectroscopy (ICP-OES)	Optima 5300 DV	JB-0031	2016.09.06-2018.09.05	√
4.	Gas Chromatography Mass Spectrograph (GC-MS)	Shimadzu GCMS-QP2010	NA-0095	2015.09.22-2017.09.21	√
5.	Gas Chromatography Mass Spectrograph (GC-MS)	Trace1300 + ISQ QD-300	CL-000363	2016.11.17-2018.11.17	√

# Flowchart

The determination of Pb, Cd, Hg, Cr(VI), PBBs, PBDEs.



## Material list

Table 1

Component No.	Component name	Specimen No.	Specimen name
1	Manual	1	manual
2	Silicone desiccant	2	silicone desiccant
3	Wire guide	3	wire guide
4	Desiccant tank rear cover	4	desiccant tank rear cover
5	Desiccant tank front cover	5	desiccant tank front cover
6	Tray axle	6	tray axle
7	Bearing	7-1	metal ring 1
		7-2	metal ring 2
		7-3	ball
		7-4	lubricating oil
8	Battery	8-1	positive electrode
		8-2	negative electrode
		8-3	diaphragm
		8-4	electrolyte
9	Cover	9-1	black coating
		9-2	transparent plastic
10	Base	10-1	white coating
		10-2	black plastic
11	Foot pad	11	foot pad
12	Rubber hole plug	12	rubber hole plug
13	Hygrometer cover	13	hygrometer cover
14	Temperature and humidity table bottom shell	14	temperature and humidity table bottom shell
15	Battery cover	15	battery cover
16	Wire	16-1	red skin
		16-2	black skin
		16-3	copper wire

Component No.	Component name	Specimen No.	Specimen name
16	Wire	16-4	solder
		16-5	metal sheets
17	PCB board	17-1	R1 body
		17-2	R1 pin
		17-3	Y1 main body
		17-4	Y1 pin
		17-5	RH body
		17-6	RH pin
		17-7	LCD powder black rubber
		17-8	LCD gray film
		17-9	LCD white film
		17-10	LCD glass
		17-11	patch R
		17-12	patch C
		17-13	green coating
		17-14	resin
17-15	copper cladding		
17-16	solder		
18	Screw	18-1	plating
		18-2	substrate

## Test Result

Table 2 The determination of Pb, Cd, Hg, Cr(VI), PBBs, PBDEs, DEHP, BBP, DBP, DIBP

No.	Test Sample:	Screening Result						Verification Test Result										Verdict	
		Pb	Cd	Hg	Cr	Br	Verdict	Pb	Cd	Hg	Cr VI		PBBs	PBD Es	DEHP	BBP	DBP		DIBP
Limit ( mg/kg )	(b)	(b)	(b)	(b)	(b)	1000		100	1000	1000 (d)	0.02 (e)	1000	1000	1000	1000	1000	1000	1000	
MDL ( mg/kg )	10	10	10	10	10	5		5	5	5	—	50	50	50	50	50	50	50	
1	manual	N.D.	N.D.	N.D.	N.D.	N.D.	P	/	/	/	/	/	/	/	N.D.	N.D.	N.D.	N.D.	P
2	silicone desiccant	N.D.	N.D.	N.D.	N.D.	N.D.	P	/	/	/	/	/	/	/	N.D.	N.D.	N.D.	N.D.	P
3	wire guide	N.D.	N.D.	N.D.	N.D.	N.D.	P	/	/	/	/	/	/	/	N.D.	N.D.	N.D.	N.D.	P
4	desiccant tank rear cover	N.D.	N.D.	N.D.	N.D.	N.D.	P	/	/	/	/	/	/	/	N.D.	N.D.	N.D.	N.D.	P
5	desiccant tank front cover	N.D.	N.D.	N.D.	N.D.	N.D.	P	/	/	/	/	/	/	/	N.D.	N.D.	N.D.	N.D.	P
6	tray axle	N.D.	N.D.	N.D.	N.D.	—	P	/	/	/	/	/	/	/	/	/	/	/	P
7-1	metal ring 1	N.D.	N.D.	N.D.	N.D.	—	P	/	/	/	/	/	/	/	/	/	/	/	P

No.	Test Sample:	Screening Result						Verification Test Result											Verdict
		Pb	Cd	Hg	Cr	Br	Verdict	Pb	Cd	Hg	Cr VI		PBBs	PBD Es	DEHP	BBP	DBP	DIBP	
Limit ( mg/kg )	(b)	(b)	(b)	(b)	(b)	1000		100	1000	1000 (d)	0.02 (e)	1000	1000	1000	1000	1000	1000	1000	
MDL ( mg/kg )	10	10	10	10	10	5		5	5	5	—	50	50	50	50	50	50	50	
7-2	metal ring 2	N.D.	N.D.	N.D.	N.D.	—	P	/	/	/	/	/	/	/	/	/	/	/	P
7-3	ball	N.D.	N.D.	N.D.	N.D.	—	P	/	/	/	/	/	/	/	/	/	/	/	P
7-4	lubricating oil	N.D.	N.D.	N.D.	N.D.	N.D.	P	/	/	/	/	/	/	/	N.D.	N.D.	N.D.	N.D.	P
8-1	positive electrode	N.D.	N.D.	N.D.	N.D.	—	P	/	/	/	/	/	/	/	/	/	/	/	P
8-2	negative electrode	N.D.	N.D.	N.D.	N.D.	—	P	/	/	/	/	/	/	/	/	/	/	/	P
8-3	diaphragm	N.D.	N.D.	N.D.	N.D.	N.D.	P	/	/	/	/	/	/	/	N.D.	N.D.	N.D.	N.D.	P
8-4	electrolyte	N.D.	N.D.	N.D.	N.D.	N.D.	P	/	/	/	/	/	/	/	N.D.	N.D.	N.D.	N.D.	P
9-1	black coating	N.D.	N.D.	N.D.	N.D.	N.D.	P	/	/	/	/	/	/	/	N.D.	N.D.	N.D.	N.D.	P
9-2	transparent plastic	N.D.	N.D.	N.D.	N.D.	N.D.	P	/	/	/	/	/	/	/	N.D.	N.D.	N.D.	N.D.	P

No.	Test Sample:	Screening Result						Verification Test Result											Verdict
		Pb	Cd	Hg	Cr	Br	Verdict	Pb	Cd	Hg	Cr VI		PBBs	PBD Es	DEHP	BBP	DBP	DIBP	
Limit ( mg/kg )	(b)	(b)	(b)	(b)	(b)	1000		100	1000	1000 (d)	0.02 (e)	1000	1000	1000	1000	1000	1000	1000	
MDL ( mg/kg )	10	10	10	10	10	5		5	5	5	—	50	50	50	50	50	50	50	
10-1	white coating	N.D.	N.D.	N.D.	N.D.	N.D.	P	/	/	/	/	/	/	/	N.D.	N.D.	N.D.	N.D.	P
10-2	black plastic	N.D.	N.D.	N.D.	N.D.	N.D.	P	/	/	/	/	/	/	/	N.D.	N.D.	N.D.	N.D.	P
11	foot pad	N.D.	N.D.	N.D.	N.D.	N.D.	P	/	/	/	/	/	/	/	56	N.D.	N.D.	N.D.	P
12	rubber hole plug	N.D.	N.D.	N.D.	N.D.	N.D.	P	/	/	/	/	/	/	/	61	N.D.	N.D.	N.D.	P
13	hygrometer cover	N.D.	N.D.	N.D.	N.D.	121	P	/	/	/	/	/	/	/	N.D.	N.D.	N.D.	N.D.	P
14	temperature and humidity table bottom shell	N.D.	N.D.	N.D.	N.D.	221	P	/	/	/	/	/	/	/	N.D.	N.D.	N.D.	N.D.	P
15	battery cover	N.D.	N.D.	N.D.	N.D.	220	P	/	/	/	/	/	/	/	N.D.	N.D.	N.D.	N.D.	P
16-1	red skin	N.D.	N.D.	N.D.	N.D.	N.D.	P	/	/	/	/	/	/	/	718	N.D.	N.D.	N.D.	P
16-2	black skin	N.D.	N.D.	N.D.	N.D.	N.D.	P	/	/	/	/	/	/	/	N.D.	N.D.	N.D.	N.D.	P



No.	Test Sample:	Screening Result						Verification Test Result											Verdict
		Pb	Cd	Hg	Cr	Br	Verdict	Pb	Cd	Hg	Cr VI		PBBs	PBD Es	DEHP	BBP	DBP	DIBP	
Limit ( mg/kg )	(b)	(b)	(b)	(b)	(b)	1000		100	1000	1000 (d)	0.02 (e)	1000	1000	1000	1000	1000	1000	1000	
MDL ( mg/kg )	10	10	10	10	10	5		5	5	5	—	50	50	50	50	50	50	50	
16-3	copper wire	N.D.	N.D.	N.D.	N.D.	—	P	/	/	/	/	/	/	/	/	/	/	/	P
16-4	solder	2126 ▲	N.D.	N.D.	N.D.	—	P▲	/	/	/	/	/	/	/	/	/	/	/	P▲
16-5	metal sheets	N.D.	N.D.	N.D.	N.D.	—	P	/	/	/	/	/	/	/	/	/	/	/	P
17-1	R1 body	N.D.	N.D.	N.D.	N.D.	N.D.	P	/	/	/	/	/	/	/	N.D.	N.D.	N.D.	N.D.	P
17-2	R1 pin	N.D.	N.D.	N.D.	N.D.	—	P	/	/	/	/	/	/	/	/	/	/	/	P
17-3	Y1 main body	N.D.	N.D.	N.D.	N.D.	N.D.	P	/	/	/	/	/	/	/	N.D.	N.D.	N.D.	N.D.	P
17-4	Y1 pin	N.D.	N.D.	N.D.	N.D.	—	P	/	/	/	/	/	/	/	/	/	/	/	P
17-5	RH body	N.D.	N.D.	N.D.	N.D.	34268	V	/	/	/	/	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
17-6	RH pin	N.D.	N.D.	N.D.	N.D.	—	P	/	/	/	/	/	/	/	/	/	/	/	P

No.	Test Sample:	Screening Result						Verification Test Result											Verdict
		Pb	Cd	Hg	Cr	Br	Verdict	Pb	Cd	Hg	Cr VI		PBBs	PBD Es	DEHP	BBP	DBP	DIBP	
Limit ( mg/kg )	(b)	(b)	(b)	(b)	(b)	1000		100	1000	1000 (d)	0.02 (e)	1000	1000	1000	1000	1000	1000	1000	
MDL ( mg/kg )	10	10	10	10	10	5		5	5	5	—	50	50	50	50	50	50	50	
17-7	LCD powder black rubber	N.D.	N.D.	N.D.	N.D.	N.D.	P	/	/	/	/	/	/	/	59	N.D.	N.D.	N.D.	P
17-8	LCD gray film	N.D.	N.D.	N.D.	N.D.	N.D.	P	/	/	/	/	/	/	/	N.D.	N.D.	N.D.	N.D.	P
17-9	LCD white film	N.D.	N.D.	N.D.	N.D.	N.D.	P	/	/	/	/	/	/	/	N.D.	N.D.	N.D.	N.D.	P
17-10	LCD glass	N.D.	N.D.	N.D.	N.D.	—	P	/	/	/	/	/	/	/	/	/	/	/	P
17-11	patch R	N.D.	N.D.	N.D.	N.D.	N.D.	P	/	/	/	/	/	/	/	N.D.	N.D.	N.D.	N.D.	P
17-12	patch C	N.D.	N.D.	N.D.	N.D.	N.D.	P	/	/	/	/	/	/	/	N.D.	N.D.	N.D.	N.D.	P
17-13	green coating	N.D.	N.D.	N.D.	N.D.	N.D.	P	/	/	/	/	/	/	/	N.D.	N.D.	N.D.	N.D.	P
17-14	resin	N.D.	N.D.	N.D.	N.D.	50207	V	/	/	/	/	/	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	P
17-15	copper cladding	N.D.	N.D.	N.D.	N.D.	—	P	/	/	/	/	/	/	/	/	/	/	/	P

No.	Test Sample:	Screening Result						Verification Test Result										Verdict	
		Pb	Cd	Hg	Cr	Br	Verdict	Pb	Cd	Hg	Cr VI		PBBs	PBD Es	DEHP	BBP	DBP		DIBP
Limit ( mg/kg )	(b)	(b)	(b)	(b)	(b)	1000		100	1000	1000 (d)	0.02 (e)	1000	1000	1000	1000	1000	1000	1000	
MDL ( mg/kg )	10	10	10	10	10	5		5	5	5	—	50	50	50	50	50	50	50	
17-16	solder	16447 ▲	N.D.	N.D.	N.D.	—	P▲	/	/	/	/	/	/	/	/	/	/	/	P▲
18-1	plating	N.D.	N.D.	N.D.	N.D.	—	P	/	/	/	/	/	/	/	/	/	/	/	P
18-2	substrate	N.D.	N.D.	N.D.	N.D.	—	P	/	/	/	/	/	/	/	/	/	/	/	P

Remarks: a) Screening results, "P" means "Pass", "F" means "Fail", "V" means "the need for chemical confirmation."

b) XRF Screening limits scope: Pb:  $P \leq 700 < V < 1300 \leq F$ ; Cd:  $P \leq 70 < V < 130 \leq F$ ; Hg:  $P \leq 700 < V < 1300 \leq F$ ; Cr:  $P \leq 700 < V$ ; Br:  $P \leq 250 < V$ .

c) "N.D." means "Not Detected"; "/" means "untested"; "—" means "not applicable"

d) It is the hexavalent chromium limit of Metal substrates or non-metallic materials.

e) It is the hexavalent chromium limit of metal plating.

"Negative" means "the Cr(VI) concentration is less than  $0.10 \mu\text{g}/\text{cm}^2$ "; "Positive" means the Cr(VI) concentration detected in the boiling water extraction solution is equal to or greater than  $0.13 \mu\text{g}/\text{cm}^2$  with a sample surface area of  $50 \text{ cm}^2$  used.

"▲": according to the 2011 /65 /EU Appendix III section 7 (a ), Lead in high melting temperature type solders (i.e. lead- based alloys containing 85 % by weight or more lead) can be exempted.

### Sample Photo



Remarks: —

### Parts photo



1



2



3



4



5



6



7



8



9



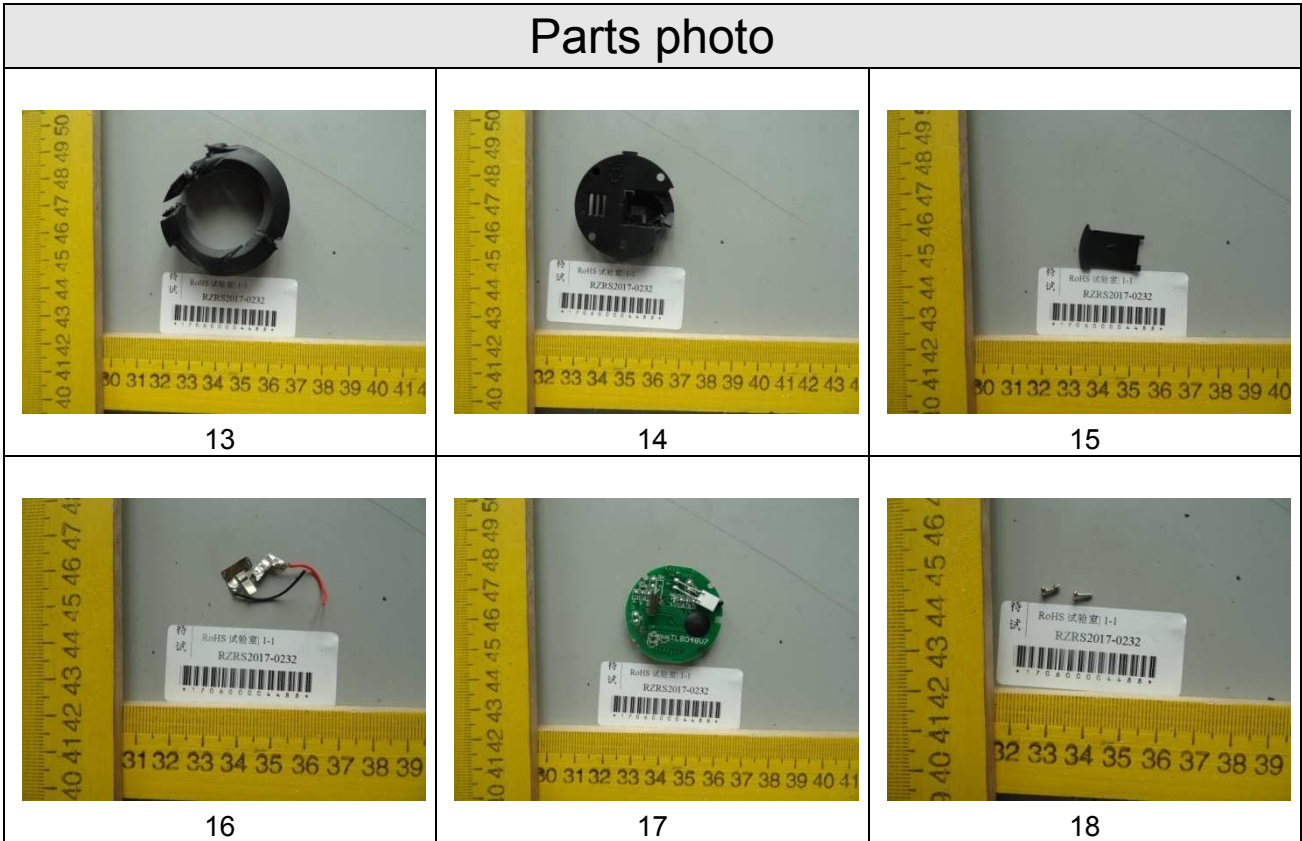
10



11



12



-----End of Report-----

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威凯检测技术有限公司

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