

Test Report

Report No.: AGC09770200503-003S1

Date: Jun.01, 2020

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Applicant: Inepro Metering BV
Address: Pondweg 7 – 2153 PK Nieuw Venne, The Netherlands
Test site: 1,6/F, Building 2, Sanwei Chaxi Industrial Park, Sanwei Community, Hangcheng Street, Baoan District, Shenzhen, Guangdong, China

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

Sample Name: 1 phase kWh meter
Item No: PRO1-Mod
Brand: Inepro
Sample Received Date: May 18, 2020
Testing Period: May 18, 2020 to May 27, 2020

Test Requested:

As specified by client, to determine the Pb, Cd, Hg, Cr⁶⁺, PBBs, PBDEs, DBP, BBP, DEHP, DIBP content in the submitted sample in accordance with Directive 2011/65/EU (RoHS) and its amendment directive (EU) 2015/863 on XRF and Chemical Method.

Conclusion

Pass

Approved by: 

Liangdan, Jessie.Liang
Technical Director



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No.	Sample Description	
1.	Pinseat	Black plastic micropositioner
2.		Contact pin
3.	Crystal oscillator	
4.	Chip resistor	
5.	IC	IC body
6.		Tin plating
7.	Chip capacitor	
8.	Barley paper	
9.	Chip LED	
10.	Optocoupler	Optical coupling ontology
11.		Pin
12.	Terminal block	Green plastic seat
13.		Silver screw
14.		Metal terminal
15.	display	Silver film
16.		Inky polarizer
17.		Display glass
18.		Pin
19.	Backlight	Lower diffusion
20.		White reflector
21.		Light board
22.		Transparent smoothing plate
23.		Silvery tape
24.		Leds lamp body
25.		Pin
26.		Black sleeving
27.	Magnetic ring inductance	Black heat shrinkable casing
28.		Blue three-layer insulated wire
29.		Brown triple insulated wire
30.		Blue magnetic ring
31.	Chip triode	
32.	White glue	
33.	Copper metal terminal	
34.	Tin solder	
35.	Green PCB board	
36.	Glass diode	
37.	Color ring resistance	Black heat shrinkable casing
38.		Color ring resistance body
39.		Pin

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40.	Chip diode	
41.	Blue capacitor	
42.	Electrolytic capacitor	Brown sleeve
43.		Anode foil
44.		Pin
45.		Cathode foil
46.		Aluminum shell
47.		Black rubber plug
48.		Electrolytic paper
49.		Blue sleeving
50.	Safety Capacitance	Blue plastic shell
51.		Thin film
52.		White injected plastic

Test Result:

(Test Method/ Instrument/ MDL and Limit: See Appendix)

No.	Test result (mg/kg)										Conclusion
	Pb	Cd	Hg	Cr ⁶⁺	PBBs	PBDEs	DIBP	DBP	BBP	DEHP	
1	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
2	N.D.	N.D.	N.D.	N.D.	N/A	N/A	N/A	N/A	N/A	N/A	Conformity
3	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
4	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
6	N.D.	N.D.	N.D.	N.D.	N/A	N/A	N/A	N/A	N/A	N/A	Conformity
7	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
8	N.D.	N.D.	N.D.	236	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
9	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
11	N.D.	N.D.	N.D.	N.D.	N/A	N/A	N/A	N/A	N/A	N/A	Conformity
12	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
13	N.D.	N.D.	N.D.	398	N/A	N/A	N/A	N/A	N/A	N/A	Conformity
14	566	N.D.	N.D.	N.D.	N/A	N/A	N/A	N/A	N/A	N/A	Conformity
15	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
16	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
17	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
18	N.D.	N.D.	N.D.	N.D.	N/A	N/A	N/A	N/A	N/A	N/A	Conformity
19	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
20	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
21	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
22	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity

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No.	Test result (mg/kg)										Conclusion
	Pb	Cd	Hg	Cr ⁶⁺	PBBs	PBDEs	DIBP	DBP	BBP	DEHP	
23	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
24	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
25	N.D.	N.D.	N.D.	N.D.	N/A	N/A	N/A	N/A	N/A	N/A	Conformity
26	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
27	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
28	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
29	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
30	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
31	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
32	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
33	N.D.	N.D.	N.D.	N.D.	N/A	N/A	N/A	N/A	N/A	N/A	Conformity
34	239	N.D.	N.D.	206	N/A	N/A	N/A	N/A	N/A	N/A	Conformity
35	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
36	12939	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
37	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
38	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
39	N.D.	N.D.	N.D.	N.D.	N/A	N/A	N/A	N/A	N/A	N/A	Conformity
40	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
41	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
42	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
43	N.D.	N.D.	N.D.	N.D.	N/A	N/A	N/A	N/A	N/A	N/A	Conformity
44	N.D.	N.D.	N.D.	N.D.	N/A	N/A	N/A	N/A	N/A	N/A	Conformity
45	N.D.	N.D.	N.D.	N.D.	N/A	N/A	N/A	N/A	N/A	N/A	Conformity
46	N.D.	N.D.	N.D.	N.D.	N/A	N/A	N/A	N/A	N/A	N/A	Conformity
47	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
48	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
49	N.D.	N.D.	N.D.	N.D.*	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
50	N.D.	N.D.	N.D.	352	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
51	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity
52	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.*	N.D.*	N.D.*	N.D.*	Conformity

Note:

mg/kg = milligram per kilogram

μg/cm² = microgram per square centimeter

N.D.=Not Detected (less than method detection limit)

N/A= Not applicable

MDL = Method Detection Limit

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Exemption

No.	Exemption clause	Content
36	7(c)-I	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound

Remark:

- *denotes as reported result(s) was (were) performed by wet chemistry method. Others were screened by XRF. For XRF screening, the result(s) of Cr VI was (were) reported as total chromium and the result(s) of PBBs and PBDEs was (were) reported as total bromine. Also, the XRF result(s) may be different to the actual content based on various factors including, but not limit to, sample size, thickness, area, nonuniformity composition, surface flatness.
- This XRF Scanning report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF screening report is sufficient for its/his/her purposes.

The result shown in this XRF scanning report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect (e.g. plastic, rubber, metal, glass, ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis are required to obtain quantitative data.

- Boiling-water-extraction:

Number	Colorimetric result (Cr(VI) concentration)	Qualitative result
1	The sample solution is < the 0,10 µg/cm ² equivalent comparison standard solution	The sample is negative for Cr(VI) – The Cr(VI) concentration is below the limit of quantification. The coating is considered a non-Cr(VI) based coating.
2	The sample solution is ≥ the 0,10 µg/cm ² and ≤ the 0,13 µg/cm ² equivalent comparison standard solutions	The result is considered to be inconclusive – Unavoidable coating variations may influence the determination.
3	The sample solution is > the 0,13 µg/cm ² equivalent comparison standard solution	The sample is positive for Cr(VI) – The Cr(VI) concentration is above the limit of quantification and the statistical margin of error. The sample coating is considered to contain Cr(VI).

- Negative indicates the absence of Cr(VI) on the tested areas concentration is below the limit of quantification. The coating is considered a non-Cr(VI) based coating. Uncertainty indicates the absence of Cr(VI) on the tested areas unavoidable coating variations may influence the determination. Positive indicates the presence of Cr(VI) on the tested areas concentration is above the limit of quantification and the statistical margin of error. The sample coating is considered to contain Cr(VI). Storage conditions and production date of the tested sample are unavailable and thus result of Cr(VI) represent status of the sample at the time of testing.

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Appendix:

Test Item	Test Method/ Instrument	MDL	Limit
X-ray Fluorescence Spectrometry(XRF)			
Lead (Pb)	IEC 62321-3-1:2013 / XRF	200mg/kg	≤1000mg/kg
Cadmium (Cd)		50mg/kg	≤100mg/kg
Mercury (Hg)		200mg/kg	≤1000mg/kg
Total Chromium		200mg/kg	/
Total Bromine		200mg/kg	/
Wet Chemistry Method			
Lead (Pb)	IEC 62321-5:2013/ ICP-OES	10mg/kg	≤1000mg/kg
Cadmium (Cd)	IEC 62321-5:2013/ ICP-OES	10mg/kg	≤100mg/kg
Mercury (Hg)	IEC 62321-4: 2013+A1:2017/ ICP-OES	10mg/kg	≤1000mg/kg
Non-metal Hexavalent Chromium (Cr ⁶⁺)	IEC 62321-7-2:2017/ UV-Vis	8mg/kg	≤1000mg/kg
Metal Hexavalent Chromium (Cr ⁶⁺)	IEC 62321-7-1:2015/ UV-Vis	0.1 μg/cm ²	/
Polybrominated Biphenyls (PBBs) -Monobromobiphenyl (MonoBB) -Dibromobiphenyl (DiBB) -Tribromobiphenyl (TriBB) -Tetrabromobiphenyl (TetraBB) -Pentabromobiphenyl (PentaBB) -Hexabromobiphenyl (HexaBB) -Heptabromobiphenyl (HeptaBB) -Octabromobiphenyl (OctaBB) -Nonabromodiphenyl (NonaBB) -Decabromodiphenyl (DecaBB)	IEC 62321-6:2015/ GC-MS	Single 5mg/kg	Sum ≤1000mg/kg
Polybrominated Diphenylethers (PBDEs) -Monobromodiphenyl ether (MonoBDE) -Dibromodiphenyl ether (DiBDE) -Tribromodiphenyl ether (TriBDE) -Tetrabromodiphenyl ether (TetraBDE) -Pentabromodiphenyl ether (PentaBDE) -Hexabromodiphenyl ether (HexaBDE) -Heptabromodiphenyl ether (HeptaBDE) -Octabromodiphenyl ether (OctaBDE) -Nonabromodiphenyl ether (NonaBDE) -Decabromodiphenyl ether (DecaBDE)	IEC 62321-6:2015/ GC-MS	Single 5mg/kg	Sum ≤1000mg/kg
Di-iso-butyl phthalate (DIBP)	IEC 62321-8:2017/ GC-MS	50mg/kg	≤1000mg/kg
Dibutyl phthalate (DBP)		50mg/kg	≤1000mg/kg
Butylbenzyl phthalate (BBP)		50mg/kg	≤1000mg/kg
Di-(2-ethylhexyl) Phthalate (DEHP)		50mg/kg	≤1000mg/kg

Note:

“≤”= Less than or equal to

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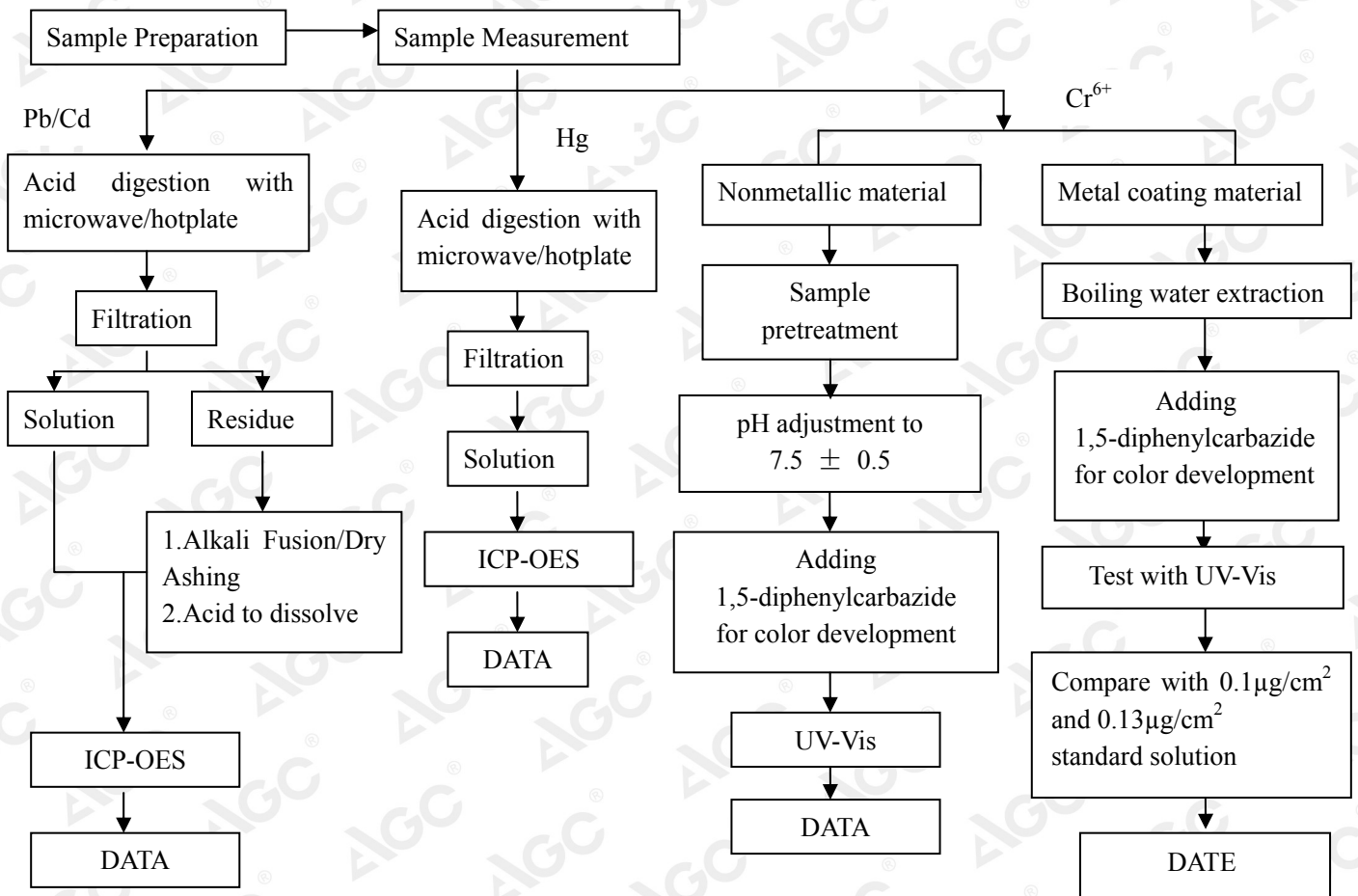
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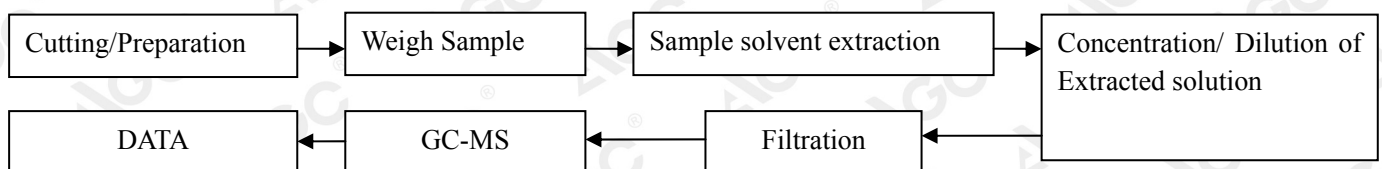
Test Flow Chart

1. For Pb, Cd, Hg, Cr⁶⁺



These sample were dissolved totally by pre-conditioning method according to above flow chart (Cr⁶⁺ test method excluded)

2. For PBBs, PBDEs, DBP, BBP, DEHP, DIBP



This report is to supersede the report with No.: AGC09770200503-003 dated on May 27, 2020

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No.	Tested Part(s)	Sample description
1.	Black plastic micropositioner	Same as No.52 of the report No. AGC09770200503-001 S1
2.	Contact pin	Same as No.53 of the report No. AGC09770200503-001 S1
4.	Chip resistor	Same as No.6 of the report No. AGC09770200503-001 S1
7.	Chip capacitor	Same as No.11 of the report No. AGC09770200503-001 S1
9.	Chip LED	Same as No.10 of the report No. AGC09770200503-001 S1
10.	Optical coupling ontology	Same as No.36 of the report No. AGC09770200503-001 S1
11.	Pin	Same as No.37 of the report No. AGC09770200503-001 S1
12.	Green plastic seat	Same as No.40 of the report No. AGC09770200503-001 S1
13.	Silver screw	Same as No.41 of the report No. AGC09770200503-001 S1
14.	Metal terminal	Same as No.42 of the report No. AGC09770200503-001 S1
15.	Silver film	Same as No.13 of the report No. AGC09770200503-001 S1
16.	Inky polarizer	Same as No.14 of the report No. AGC09770200503-001 S1
17.	Display glass	Same as No.15 of the report No. AGC09770200503-001 S1
18.	Pin	Same as No.16 of the report No. AGC09770200503-001 S1
19.	Lower diffusion	Same as No.17 of the report No. AGC09770200503-001 S1
20.	White reflector	Same as No.18 of the report No. AGC09770200503-001 S1
21.	Light board	Same as No.19 of the report No. AGC09770200503-001 S1
22.	Transparent smoothing plate	Same as No.20 of the report No. AGC09770200503-001 S1
23.	Silvery tape	Same as No.22 of the report No. AGC09770200503-001 S1
31.	Chip triode	Same as No.12 of the report No. AGC09770200503-001 S1
32.	White glue	Same as No.55 of the report No. AGC09770200503-001 S1
33.	Copper metal terminal	Same as No.1 of the report No. AGC09770200503-001 S1
38.	Color ring resistance body	Same as No.44 of the report No. AGC09770200503-001 S1
39.	Pin	Same as No.45 of the report No. AGC09770200503-001 S1
40.	Chip diode	Same as No.38 of the report No. AGC09770200503-001 S1
43.	Anode foil	Same as No.25 of the report No. AGC09770200503-001 S1
44.	Pin	Same as No.26 of the report No. AGC09770200503-001 S1
45.	Cathode foil	Same as No.27 of the report No. AGC09770200503-001 S1
46.	Aluminum shell	Same as No.28 of the report No. AGC09770200503-001 S1
47.	Black rubber plug	Same as No.29 of the report No. AGC09770200503-001 S1
48.	Electrolytic paper	Same as No.30 of the report No. AGC09770200503-001S1

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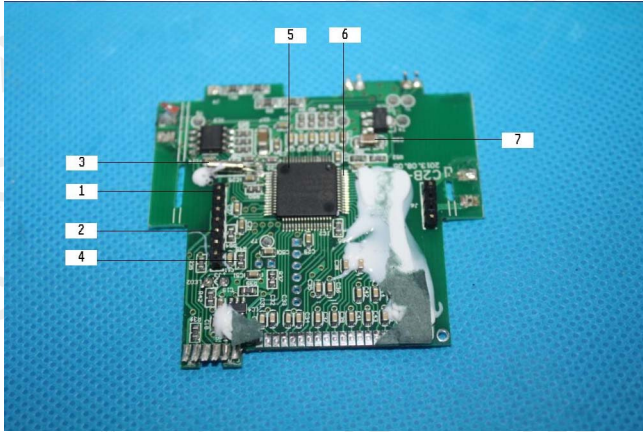
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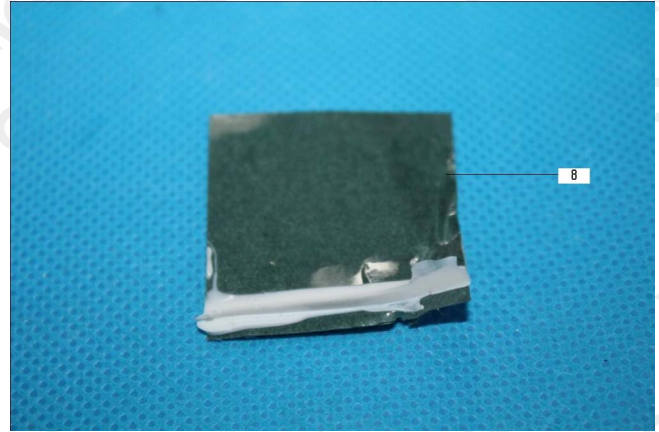
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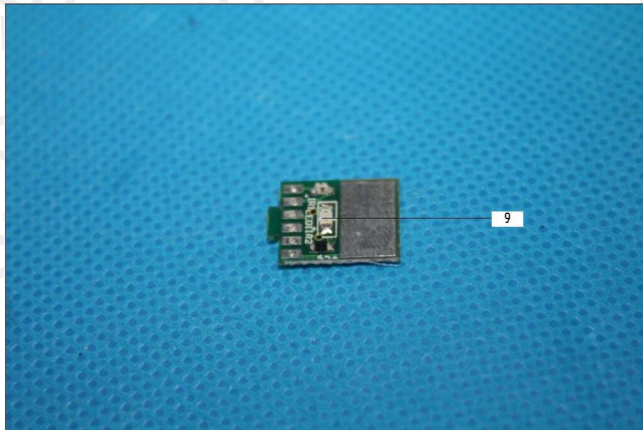
The photo of the sample



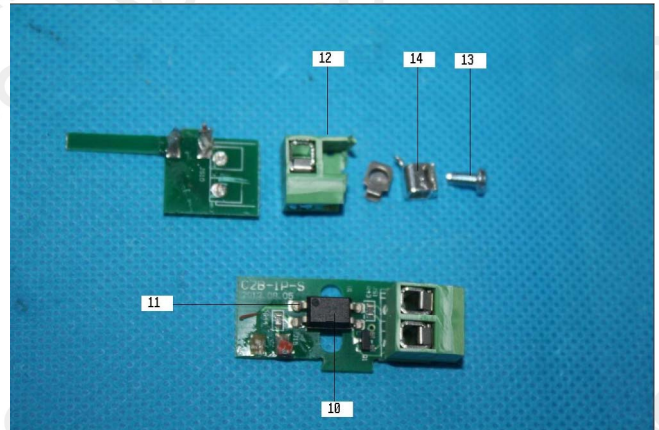
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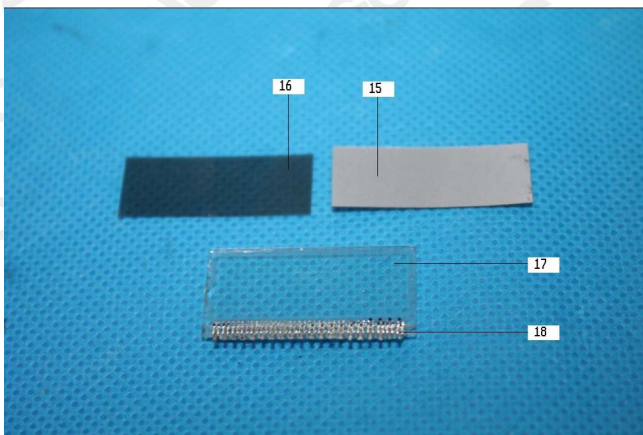
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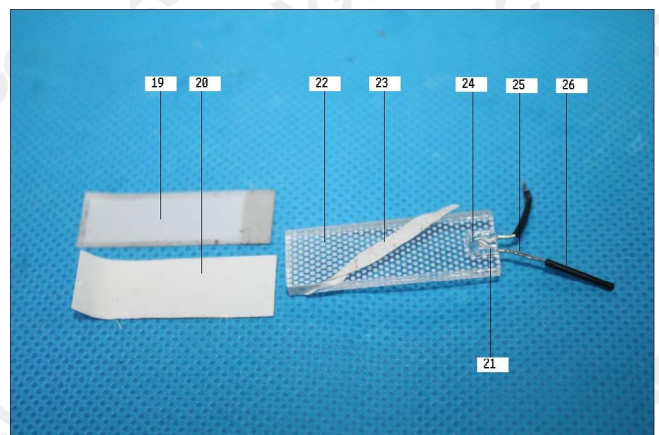
3



4



5



6

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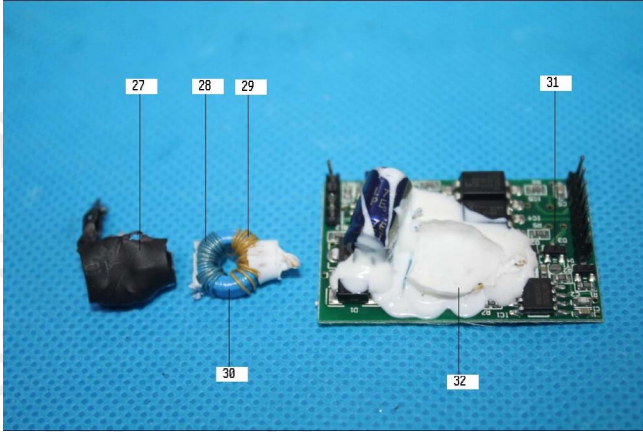


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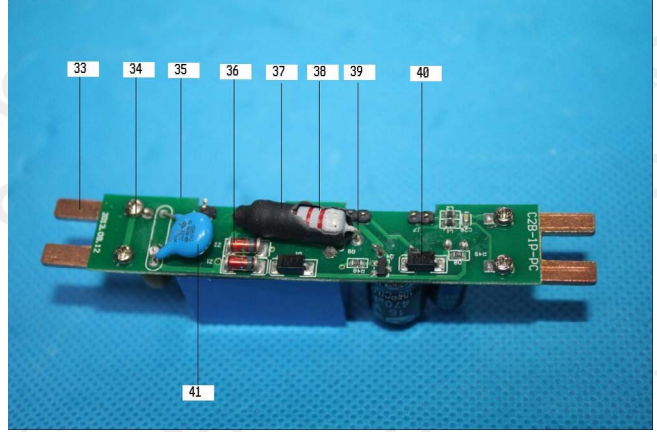
Report No.: AGC09770200503-003S1

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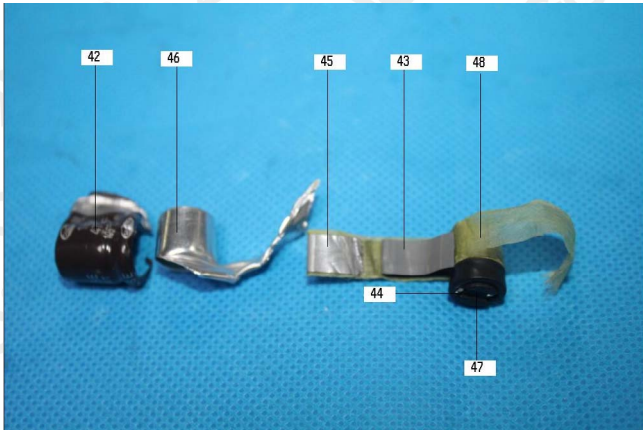
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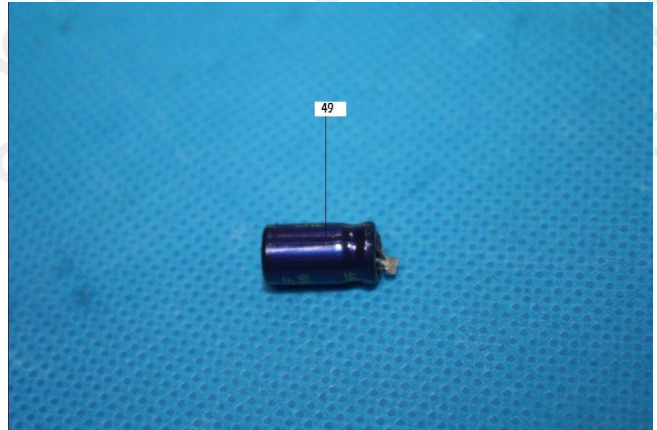
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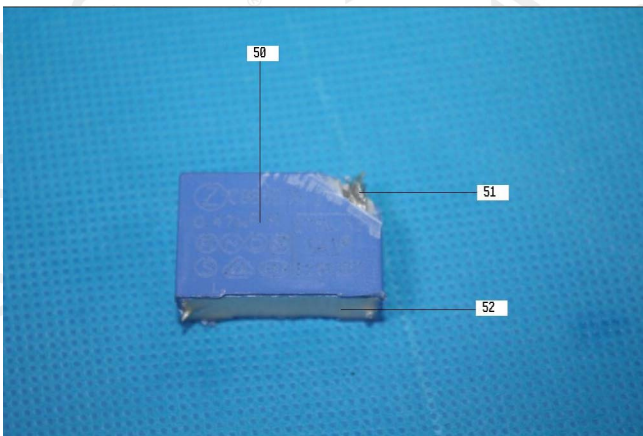
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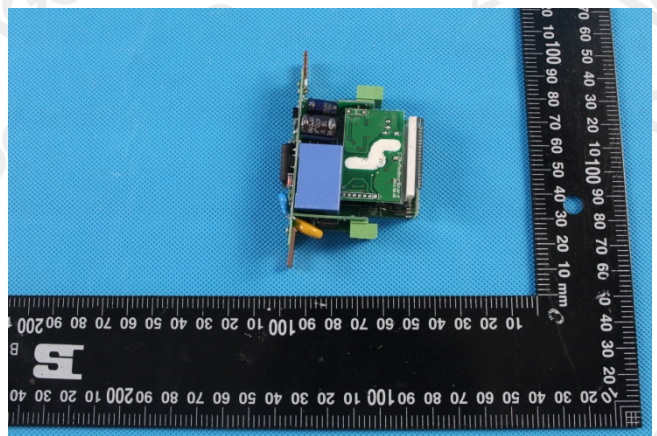
9



10



11



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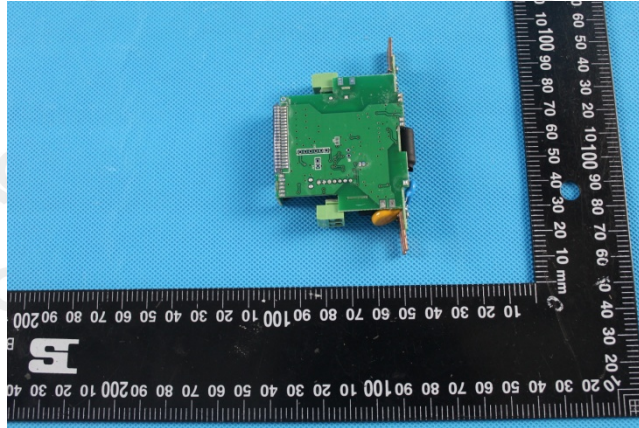


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*** End of Report ***

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Attestation of Global Compliance Std. & Tech.

Tel: +86-755 8358 3833 Fax: +86-755 2531 6612 E-mail: agc01@agc-cert.com 400 089 2118
Add: Building 2, No.171, Meihua Road, Shangmeilin, Futian District, Shenzhen, Guangdong China

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