



XRF Screening And Chemical Confirmation Test Report

No.: 140901072GZU-001
Date: Oct 08, 2014

Applicant:

Sample Description:

The following submitted sample(s) said to be:

Item Name : **ELECTRIC WINE OPENER**
Model No. : KB1-60K
Reference No. : KB1-60I, KB1-60C, KB1-60E, KB1-60L2, KB1-60L, KB1-60N, KB1-60M
Date of Sample Received : Sep, 02, 2014, Sep 17, 2014, Sep 23, 2014 & Sep 29, 2014
Testing Period : Sep, 02, 2014 to Sep 29, 2014

Tests conducted:

As requested by the applicant, refer to following page(s) for details.

Conclusion:

<u>Tested Samples</u>	<u>Standard</u>	<u>Result</u>
Screened components of submitted sample	Screening by XRF spectroscopy and chemical confirmation test for RoHS Directive (2011/65/EU)	Pass

Authorized by:
For Intertek Testing Services Shenzhen Ltd.
Guangzhou Branch

Annie Liang
Project Engineer



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Screening Test by XRF Spectroscopy

Cadmium (Cd), Lead (Pb), Mercury (Hg), Chromium (Cr) and Bromine (Br) content were measured with reference to IEC 62321-3-1 Edition 1.0: 2013 by XRF spectroscopy and chemical confirmation test for RoHS restricted substances.

(A) Results:

Screened Components	XRF Results		Chemical Confirmation Result
(1)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(2)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(3)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(4)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(5)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(6)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	



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Screened Components	XRF Results		Chemical Confirmation Result
(7)	Cd	ND	Cr ⁶⁺ : Negative (<0.02 mg/kg with 50 cm ²)
	Pb	ND	
	Hg	ND	
	Cr	Inconclusive	
	Br	NT	
(8)	Cd	ND	Pb: 8500mg/kg [#]
	Pb	>1300mg/kg	
	Hg	ND	
	Cr	ND	
	Br	NT	
(9)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(10)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(11)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(12)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(13)	Cd	ND	Cr ⁶⁺ : Negative (<0.02 mg/kg with 50 cm ²)
	Pb	ND	
	Hg	ND	
	Cr	Inconclusive	
	Br	NT	



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Screened Components	XRF Results		Chemical Confirmation Result
(14)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(15)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(16)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(17)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(18)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(19)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(20)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	



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Screened Components	XRF Results		Chemical Confirmation Result
(21)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(22)	Cd	ND	Cr ⁶⁺ : Negative (<0.02 mg/kg with 50 cm ²)
	Pb	ND	
	Hg	ND	
	Cr	Inconclusive	
	Br	NT	
(23)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(24)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	Detected	
(25a)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(25b)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(26)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	



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Screened Components	XRF Results		Chemical Confirmation Result
(27)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(28)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(29)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(30a)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(30b)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(31)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(32)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	



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Screened Components	XRF Results		Chemical Confirmation Result
(33a)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(33b)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(33c)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	Detected	
	Br	ND	
(33d)	Cd	ND	Cr ⁶⁺ : Negative (<0.02 mg/kg with 50 cm ²)
	Pb	ND	
	Hg	ND	
	Cr	Inconclusive	
	Br	NT	
(33e)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(33f)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(33g)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	



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Screened Components	XRF Results		Chemical Confirmation Result
(33h)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(33i)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(34)	Cd	ND	PBBs : ND(<5mg/kg) PBDEs : ND(<5mg/kg)
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	Inconclusive	
(35)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(36)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(37)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(38)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	



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Screened Components	XRF Results		Chemical Confirmation Result
(39)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(40)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(41)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(42)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(43)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(44)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(45)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	



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Screened Components	XRF Results		Chemical Confirmation Result
(46)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(47)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(48)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(49)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(50)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(51)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(52)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	



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Screened Components	XRF Results		Chemical Confirmation Result
(53)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(54)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(55)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(56)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(57)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(58)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(59)	Cd	ND	Cr ⁶⁺ : Negative (<0.02 mg/kg with 50 cm ²)
	Pb	ND	
	Hg	ND	
	Cr	Inconclusive	
	Br	NT	



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Screened Components	XRF Results		Chemical Confirmation Result
(60)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(61)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(62)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(63)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(64)	Cd	ND	Cr ⁶⁺ : Negative (<0.02 mg/kg with 50 cm ²)
	Pb	ND	
	Hg	ND	
	Cr	Inconclusive	
	Br	NT	

Detected = Below the lower screening limit of table (B) and pass

ND = Not detected

NT = Not tested

mg/kg with 50cm² = milligram per kilogram with 50 square centimetre

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Positive = A positive test result indicated the presence of Cr(VI) at the time of testing, equal to or greater than threshold of 1 mg/kg for spot test procedure or 0.02 mg/kg for boiling-water-extraction procedures with a sample surface area of 50cm² used. However, it shall not be interpreted as the Cr(VI) concentration in the coating layer of the sample and should not be used as a method detection limit for this qualitative test.

Negative = A negative test result indicated above positive observation was not found at the time of testing. When the spot-test showed a negative result, the boiling-water-extraction procedure shall be used to verify the result.

Remark:

(#) = As claimed by the declaration submitted from the applicant, the Lead content of the component comes from Copper alloy only. According to EU RoHS Directive (2011/65/EU), Lead in Copper alloy containing up to 4% (40,000 mg/kg) Lead by weight can be exempted.

(B) XRF Screening Limits in mg/kg for Regulated Elements in Various Matrices

Element	Polymer Materials	Metallic Materials	Composite Materials
Cd	$P \leq 70 < X < 130 \leq F$	$P \leq 70 < X < 130 \leq F$	$P \leq 70 < X < 150 \leq F$
Pb	$P \leq 700 < X < 1300 \leq F$	$P \leq 700 < X < 1300 \leq F$	$P \leq 500 < X < 1500 \leq F$
Hg	$P \leq 700 < X < 1300 \leq F$	$P \leq 700 < X < 1300 \leq F$	$P \leq 500 < X < 1500 \leq F$
Cr	$P \leq 700 < X$	$P \leq 700 < X$	$P \leq 500 < X$
Br	$P \leq 300 < X$	Not applicable	$P \leq 250 < X$

P = Pass

X = Inconclusive result

F = Fail

mg/kg = milligram per kilogram = ppm

(C) Estimated Detection Limits in mg/kg for Regulated Elements in Various Matrices

Element	Polymer Materials	Metallic Materials	Composite Materials
Cd	50	70	70
Pb	100	200	200
Hg	100	200	200
Cr	100	200	200
Br	200	Not applicable	200



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Disclaimers:

This XRF Screening and Chemical Confirmation Test 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 and Chemical Confirmation Test Report is sufficient for its/his/her purposes.

The results shown in this XRF Screening and Chemical Confirmation Test 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 is required to obtain quantitative data.

(D) Chemical Confirmation Test Methods:

Testing Item	Testing Method	Reporting Limit
Lead (Pb) Content	With reference to IEC 62321-5 Edition 1.0 : 2013, by acid digestion and determined by ICP - OES	2 mg/kg
Chromium (VI) (Cr^{6+}) Content	With reference to IEC 62321 edition 1.0:2008, by boiling water extraction and determined by UV-VIS spectrophotometer	Positive/Negative (Threshold of 0.02mg/kg with 50cm ²)
Polybrominated Biphenyls (PBBs) & Polybrominated Diphenyl Ethers (PBDEs)	With reference to IEC 62321 edition 1.0:2008, by solvent extraction and determined by GC/MS and further HPLC confirmation when necessary	5 mg/kg

(E) RoHS Requirement:

Restricted Substances	Limits
Cadmium (Cd)	0.01% (100 mg/kg)
Lead (Pb)	0.1% (1000 mg/kg)
Mercury (Hg)	0.1% (1000 mg/kg)
Chromium (VI) (Cr^{6+})	0.1% (1000 mg/kg)
Polybrominated Biphenyls (PBBs)	0.1% (1000 mg/kg)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000 mg/kg)

The above limits were quoted from 2011/65/EU for homogeneous material.



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Screened Components:

- (1) Silvery adhesive plastic with black printing
- (2) Black plastic
- (3) White plastic
- (4) Beige plastic
- (5) Dull beige plastic
- (6) White plastic
- (7) Black treated metal
- (8) Golden metal
- (9) White plastic
- (10) White plastic
- (11) Silvery metal
- (12) Silvery metal (washer)
- (13) Black treated metal (washer)
- (14) Silvery metal
- (15) Silvery metal
- (16) Black treated metal
- (17) Silvery metal
- (18) Silvery metal
- (19) Golden metal
- (20) Black magnet
- (21) Silvery metal
- (22) Silvery metal
- (23) Golden metal
- (24) White plastic
- (25) Capacitor
 - (a) Brown ceramic with black printing
 - (b) Silvery metal (pin)
- (26) Solder
- (27) Golden metal
- (28) Black sponge
- (29) Black carbon
- (30) Capacitor
 - (a) Brown ceramic with black printing
 - (b) Silvery metal (pin)
- (31) Copper color metal
- (32) Silvery metal (rivet)



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- (33) Motor
 - (a) Silvery metal
 - (b) Black plastic
 - (c) Green glue
 - (d) Grey metal sheet
 - (e) Copper color metal
 - (f) White plastic
 - (g) Black material
 - (h) Copper color metal wire
 - (i) Golden metal
- (34) Green PCB
- (35) Solder
- (36) Silvery metal
- (37) Silvery metal (point)
- (38) Silvery metal wire
- (39) Pink plastic with black printing (wire covering)
- (40) Yellow plastic with black printing (wire covering)
- (41) Black plastic with white printing (wire covering)
- (42) Red plastic with black printing (wire covering)
- (43) Silvery metal (spring)
- (44) Silvery metal (spring)
- (45) Black plastic
- (46) White plastic
- (47) Pink woven
- (48) Black plastic with white printing (heating shrinkage sleeving)
- (49) Silvery metal (spring)
- (50) Silvery metal
- (51) Silvery metal
- (52) Silvery metal (spring)
- (53) Silvery metal
- (54) Silvery metal
- (55) Silvery metal
- (56) Silvery metal
- (57) Silvery metal
- (58) Silvery metal
- (59) Silvery metal
- (60) Silvery metal (screw)



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- (61) Silvery metal (screw)
- (62) Silvery metal (screw)
- (63) Silvery metal (screw)
- (64) Black treated metal (screw)

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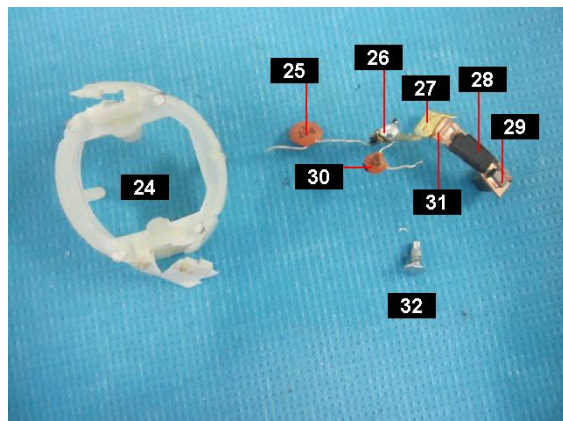
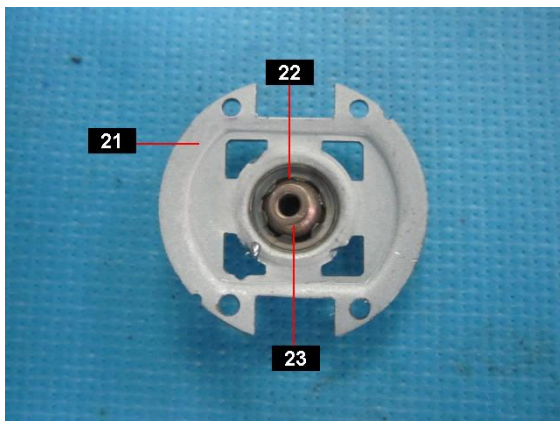
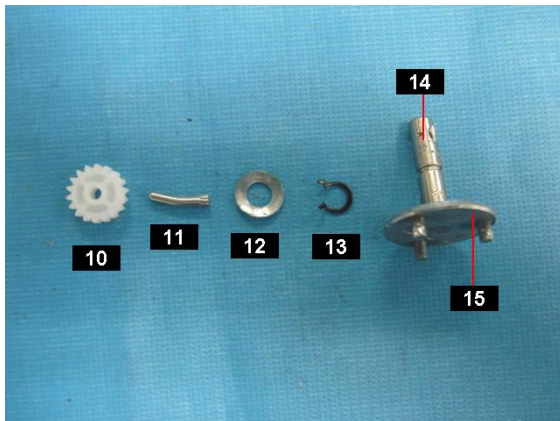
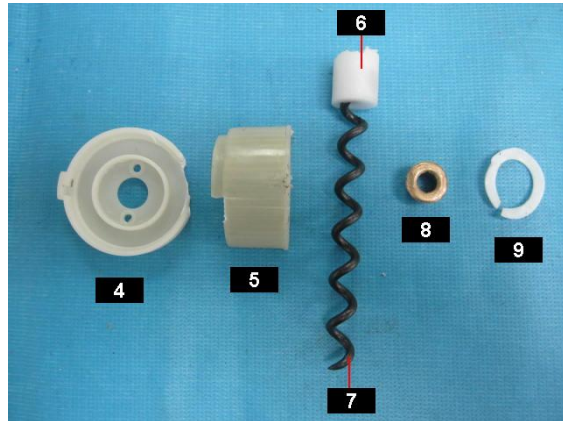
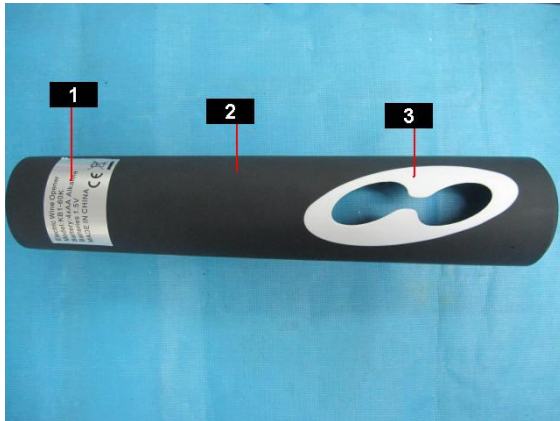
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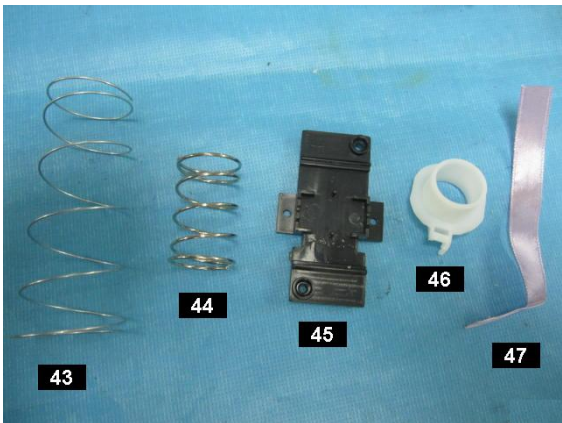
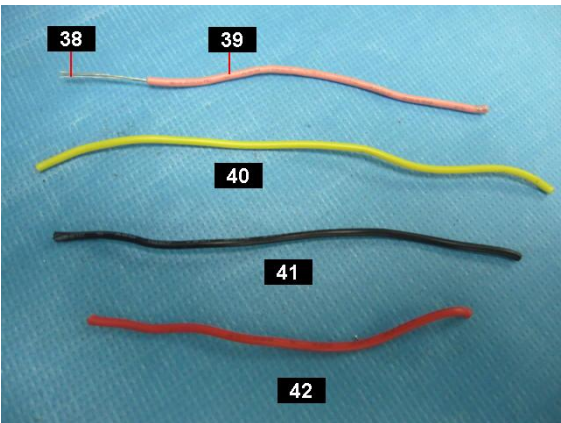
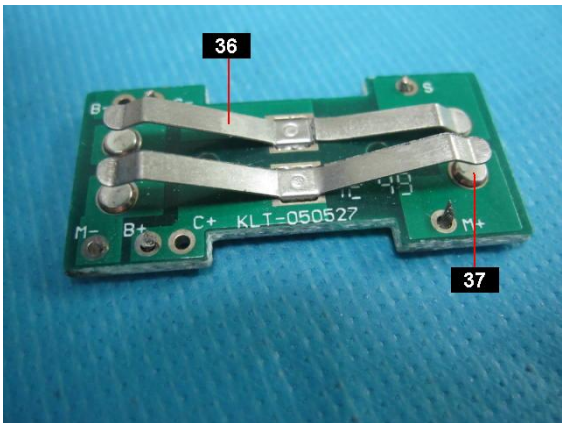
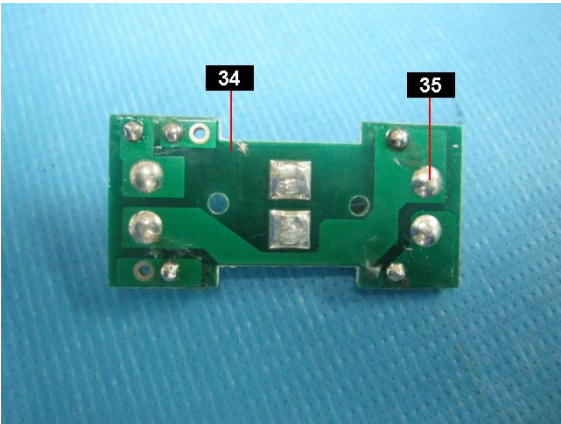
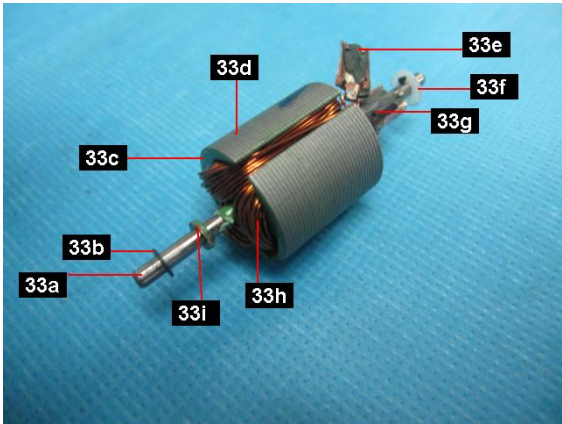


Finished product

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End of Report

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