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Hong Kong Association for Testing, Inspection and Certification Limited
Hong Kong Toys Council

Test Report Number: HKGH0209241201

Applicant: NEAT-OH! INTERNATIONAL, LLC
790 FRONTAGE ROAD SUITE 303
NORTHFIELD
IL 60093
USA
Attn: ALEX YIU / WAYNE ROTHSCHILD

Date: Jun 02, 2017

Submitted sample said to be	:	
Item Name	:	**(1) Zipes™ Speed Pipes - Performance Pack** **(2) Zipes™ Speed Pipes - Duel Barrel Racing Pack** **(3) Zipes™ Speed Pipes - Vehicle & Remote Accessory Set** **(4) Zipes™ Speed Pipes - Totally Tubular Expansion Pack**
Item No.	:	**(1) A2280XX** **(2) A2281XX** **(3) A2282XX** **(4) A2283XX**
Quantity	:	1 set
Labelled Age Group	:	"3+"
Packaging Provided	:	Yes
Manufacturer	:	Shen Zhen Wai Lee Fung Plastic Product Company Limited
Country of Origin	:	China

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For and on behalf of :
Intertek Testing Services HK Ltd.

Angel Y.F. Cheung
Vice President

Intertek Testing Services Hong Kong Ltd.
2/F., Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong.
Tel: (852) 2173 8888 Fax: (852) 2786 1903 Website: www.intertek.com

Test Report Number: HKGH0209241201

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HKGH0209241201-02

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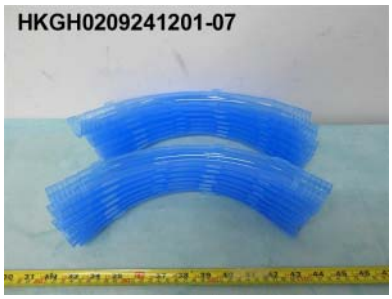

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Conclusion:
The submitted sample was tested under the following requirements requested by the applicant, subject to the information stated in the remark and attached page(s) for details :

	Requirement	Result
(1)	RoHS Directive (2011/65/EU) - Screening by XRF Spectroscopy and Chemical Confirmation Test	Pass

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Remark :
Chemical confirmation tests were conducted to verify the inconclusive results, Chromium (VI) (Cr^{6+}), Polybrominated Biphenyls (PBBs) and Polybrominated Diphenyl Ethers (PBDEs) content.

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(1) RoHS Test

(A) Results :

Screened Components	XRF Results					Chemical Confirmation Result
	Cd	Pb	Hg	Cr	Br	
(1)	ND	ND	ND	ND	ND	- -
(2)	ND	ND	ND	ND	ND	- -
(3)	ND	ND	ND	ND	ND	- -
(4)	ND	ND	ND	ND	ND	- -
(5)	ND	D	ND	D	NA	- -
(6)	ND	ND	ND	ND	ND	- -
(7)	ND	ND	ND	ND	#	PBBs : ND PBDEs : ND
(8)	ND	ND	ND	D	NA	- -
(9)	ND	ND	ND	D	NA	- -
(10)	ND	ND	ND	ND	ND	- -

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Screened Components	XRF Results					Chemical Confirmation Result
	Cd	Pb	Hg	Cr	Br	
(11)	ND	ND	ND	ND	ND	- -
(12)	ND	ND	ND	ND	NA	- -
(13)	ND	ND	ND	ND	ND	- -
(14)	ND	D	ND	D	NA	- -
(15)	ND	ND	ND	ND	#	PBBs : ND PBDEs : ND
(16)	ND	ND	ND	D	NA	- -
(17)	ND	ND	ND	ND	#	PBBs : ND PBDEs : ND
(18)	ND	ND	ND	ND	ND	- -
(19)	ND	ND	ND	ND	#	PBBs : ND PBDEs : ND
(20)	ND	ND	ND	ND	#	- -
(21)	ND	#2	ND	D	D	- -
(22)	ND	ND	ND	ND	#	PBBs : ND PBDEs : ND
(23)	ND	ND	ND	ND	ND	- -

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Screened Components	XRF Results					Chemical Confirmation Result
	Cd	Pb	Hg	Cr	Br	
(24)	ND	ND	ND	ND	ND	- -
(25)	ND	ND	ND	ND	ND	- -
(26)	ND	ND	ND	ND	ND	- -
(27)	ND	ND	ND	ND	NA	- -
(28)	ND	ND	ND	ND	ND	- -
(29)	ND	ND	ND	ND	ND	- -
(30)	ND	ND	ND	ND	NA	- -
(31)	ND	ND	ND	ND	ND	- -
(32)	ND	ND	ND	#	NA	Cr^{6+} : ND
(33)	ND	ND	ND	ND	NA	- -
(34)	ND	D	ND	#	NA	Cr^{6+} : ND
(35)	ND	D	ND	#	NA	Cr^{6+} : ND

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Screened Components	XRF Results					Chemical Confirmation Result
	Cd	Pb	Hg	Cr	Br	
(36)	ND	ND	ND	ND	ND	- -
(37)	ND	ND	ND	ND	ND	- -
(38)	ND	ND	ND	ND	NA	- -
(39)	ND	ND	ND	ND	ND	- -
(40)	ND	D	ND	D	NA	- -
(41)	ND	ND	ND	ND	NA	- -
(42)	ND	ND	ND	ND	ND	- -
(43)	ND	ND	ND	ND	NA	- -
(44)	ND	ND	ND	ND	#	PBBs : ND PBDEs : ND
(45)	ND	D	ND	D	NA	- -
(46)	ND	ND	ND	ND	NA	- -
(47)	ND	ND	ND	ND	NA	- -

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Screened Components	XRF Results					Chemical Confirmation Result
	Cd	Pb	Hg	Cr	Br	
(48)	ND	ND	ND	ND	#	PBBs : ND PBDEs : ND
(49)	ND	D	ND	D	NA	- -
(50)	ND	ND	ND	ND	#	PBBs : ND PBDEs : ND
(51)	ND	ND	ND	ND	ND	- -
(52)	ND	ND	ND	ND	ND	- -
(53)	ND	ND	ND	ND	ND	- -
(54)	ND	ND	ND	ND	ND	- -
(55)	ND	ND	ND	ND	ND	- -
(56)	ND	ND	ND	ND	ND	- -
(57)	ND	ND	ND	#	NA	Cr^{6+} : ND
(58)	ND	ND	ND	ND	ND	- -
(59)	ND	ND	ND	ND	ND	- -
(60)	ND	ND	ND	#	NA	Cr^{6+} : ND

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Screened Components	XRF Results					Chemical Confirmation Result
	Cd	Pb	Hg	Cr	Br	
(61)	ND	ND	ND	ND	ND	- -
(62)	ND	ND	ND	ND	ND	- -
(63)	ND	ND	ND	ND	ND	- -
(64)	ND	ND	ND	ND	#	PBBs : ND PBDEs : ND
(65)	ND	ND	ND	ND	#	PBBs : ND PBDEs : ND
(66)	ND	ND	ND	ND	#	PBBs : ND PBDEs : ND
(67)	ND	ND	ND	D	NA	- -
(68)	ND	ND	ND	ND	ND	- -
(69)	ND	ND	ND	ND	ND	- -
(70)	ND	ND	ND	ND	NA	- -
(71)	ND	ND	ND	ND	NA	- -
(72)	ND	ND	ND	ND	ND	- -

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Screened Components	XRF Results					Chemical Confirmation Result
	Cd	Pb	Hg	Cr	Br	
(73)	ND	ND	ND	ND	ND	- -
(74)	ND	ND	ND	ND	NA	- -
(75)	ND	ND	ND	ND	NA	- -
(76)	ND	ND	ND	ND	NA	- -
(77)	ND	ND	ND	ND	ND	- -
(78)	ND	ND	ND	ND	NA	- -
(79)	ND	ND	ND	ND	ND	- -
(80)	ND	ND	ND	ND	ND	- -
(81)	ND	#1	ND	ND	NA	- -
(82)	ND	ND	ND	ND	ND	- -
(83)	ND	D	ND	D	NA	- -
(84)	ND	ND	ND	ND	NA	- -
(85)	ND	ND	ND	ND	NA	- -

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Screened Components	XRF Results					Chemical Confirmation Result
	Cd	Pb	Hg	Cr	Br	
(86)	ND	ND	ND	ND	NA	- -
(87)	ND	ND	ND	ND	NA	- -
(88)	ND	ND	ND	ND	ND	- -
(89)	ND	ND	ND	ND	NA	- -
(90)	ND	ND	ND	ND	ND	- -
(91)	ND	ND	ND	#	NA	Cr^{6+} : ND
(92)	ND	ND	ND	ND	ND	- -
(93)	ND	ND	ND	ND	ND	- -

Remark :
ND = Not Detected
NA = Not Applicable
D = Detected : Below the lower screening limit of table(B) and pass.
ppm = part per million = mg/kg
# = Inconclusive

#1 = As confirmed by the client, the Lead content of the component is coming from copper alloy only. According to EU RoHS Directive, Lead as an alloying element in copper alloy can be containing up to 4% (40,000 ppm) Lead by weight. The lead content result was found below this limit.

#2 = As confirmed by the client, the Lead content of the component is coming from the constituent of ceramic part of the electronic component only. According to EU RoHS Directive, Lead in electronic ceramic parts of this component can be exempted.

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List of Polybrominated Biphenyls (PBBs) and Polybrominated Diphenyl Ethers (PBDEs) in chemical confirmation test:

PBBs	PBDEs
Monobromobiphenyl (monoBB)	Monobromodiphenyl ether (MonoDBE)
Dibromobiphenyl (DiBB)	Dibromodiphenyl ether (DiDBE)
Tribromobiphenyl (TriBB)	Tribromodiphenyl ether (TriDBE)
Tetrabromobiphenyl (TetraBB)	Tetrabromodiphenyl ether (TetraDBE)
Pentabromobiphenyl (PentaBB)	Pentabromodiphenyl ether (PentaDBE)
Hexabromobiphenyl (HexaBB)	Hexabromodiphenyl ether (HexaDBE)
Heptabromobiphenyl (HeptaBB)	Heptabromodiphenyl ether (HeptaDBE)
Octabromobiphenyl (OctaBB)	Octabromodiphenyl ether (OctaDBE)
Nonabromobiphenyl (NonaBB)	Nonabromodiphenyl ether (NonaDBE)
Decabromobiphenyl (DecaBB)	Decabromodiphenyl ether (DecaDBE)

(B) XRF screening limits in mg/kg for regulated elements in various matrices

Element	Polymer Materials	Metallic Materials	Composite Materials
Cd	P ⩽70 < X < 130 ⩽ F	P ⩽ 70 < X < 130 ⩽ F	P ⩽ 70 < X < 150 ⩽ F
Pb	P ⩽ 700 < X < 1300⩽ F	P ⩽ 700 < X < 1300 ⩽ F	P ⩽ 500< X < 1500 ⩽ F
Hg	P ⩽ 700< X < 1300 ⩽ F	P ⩽ 700 < X < 1300 ⩽ F	P ⩽ 500 < X < 1500 ⩽ F
Cr	P ⩽ 700< X	P ⩽ 700 < X	P ⩽ 500 < X
Br	P ⩽ 300< X	Not applicable	P ⩽ 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 report is for reference purposes only. The applicant shall make Its/His/Her own judgement as to whether the information provided in this XRF screening report is sufficient for Its/His/Her purposes.

The results shown in this XRF screening 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.

(D) Test Methods

Testing Item	**Testing Method**	**Reporting Limit**
XRF screening	With reference to IEC 62321-3-1 edition 1.0 : 2013, by X-ray fluorescence spectrometry	Refer to (C)
Chromium (VI) (Cr^{6+}) Content (For Metal)	With reference to IEC 62321-7-1 : 2015, by boiling water extraction and determined by UV-VIS spectrophotometer	0.1 $\mu g/cm^2$
Polybrominated Biphenyls (PBBs)& Polybrominated Diphenyl Ethers (PBDEs)	With reference to IEC 62321-6 : 2015, by solvent extraction and determined by GC/MS.	20 mg/kg

The explanation of Chromium VI (Cr^{6+}) analysis result (For Metal)

Colorimetric result	Qualitative result	Explanation
$< 0.10\ \mu g/cm^2$	Negative	The result of sample is negative for Cr (VI). The sample coating is considered a non-Cr(VI) based coating.
$\geq 0.10\ \mu g/cm^2$ and $\leq 0.13\ \mu g/cm^2$	Inconclusive	The result of sample is considered to be inconclusive. If addition samples are available, recommend to add trials and get the average result for the final determination.
$> 0.13\ \mu g/cm^2$	Positive	The result of sample is positive for Cr(VI). The sample coating is considered to contain Cr(VI). A result expresses as positive, while not an actual value, which indicates a visual observation was used.

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(E) RoHS requirements

Restricted substances	Limits
Cadmium (Cd)	0.01% (100 ppm)
Lead (Pb)	0.1% (1000 ppm)
Mercury (Hg)	0.1% (1000 ppm)
Chromium (VI) (Cr^{6+})	0.1% (1000 ppm)
Polybrominated biphenyls (PBBs)	0.1% (1000 ppm)
Polybrominated diphenyl ethers (PBDEs)	0.1% (1000 ppm)

The above limits were quoted from Annex II of 2011/65/EU.

Screened components:

(1) Transparent plastic (joint of tube) .
(2) Transparent plastic (tube) .
(3) Transparent blue plastic (pipe) .
(4) Transparent plastic (light) .
(5) Silver color metal (button cell contact plate) .
(6) Transparent plastic (button cell holder) .
(7) Transparent plastic (LED) .
(8) Silver color metal (lead of LED) .
(9) Silver color metal (sensor spring) .
(10) White epoxy with chip (IC on PCB) .
(11) White / brown fibre board (PCB) .
(12) Solder (on PCB) .
(13) Transparent black plastic (USB plug case) .
(14) Silver color metal (USB plug case) .
(15) White plastic (terminal holder of USB plug) .
(16) Silver color metal (terminal of USB plug) .
(17) Green / yellow fibre board (PCB) .
(18) Transparent green plastic (car, remote control case) .
(19) Black body with silver color metal (SMD diode) .
(20) Black body with silver color metal (SMD transistor) .
(21) White body with black printing with silver color metal (SMD resistor) .
(22) Transparent body (SMD LED) .
(23) Black plastic (strain relief) .
(24) Black plastic (cable jacket) .
(25) Transparent green plastic (wire insulator) .
(26) White plastic (wire insulator) .
(27) Silver color metal (wire) .
(28) Black plastic (connector plug case) .
(29) White plastic (connector plug) .
(30) Silver color metal (terminal of connector plug) .
(31) Transparent blue plastic with black printing (remote control case, car) .
(32) Silver color metal (battery contact plate) .
(33) Solder (on contact plate) .
(34) Blue plated metal (screw) .
(35) Blue plated metal (nut) .

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Screened components:

(36) Black plastic (wire insulator) .
(37) Red plastic (wire insulator) .
(38) Copper color metal (wire) .
(39) Black plastic (button of slide switch) .
(40) Silver color metal (frame of slide switch) .
(41) Silver color metal (clip of slide switch) .
(42) Brown fibre board (PCB of slide switch) .
(43) Silver color metal (lead of slide switch) .
(44) Black plastic (button and case of tactile switch) .
(45) Silver color metal (frame of tactile switch) .
(46) Copper / silver color metal (contact plate of tactile switch) .
(47) Silver color metal (lead of tactile switch) .
(48) Transparent plastic (LED) .
(49) Silver color metal (lead of LED) .
(50) Transparent red plastic (LED) .
(51) Transparent green plastic (LED holder) .
(52) Blue / brown fibre board (PCB) .
(53) Black body with silver color metal (IC) .
(54) Brown body with silver color metal (SMD capacitor) .
(55) Dark blue plastic (wheel holder) .
(56) White plastic (wheel, gear) .
(57) Silver color metal (nail of wheel) .
(58) Black plastic (tire) .
(59) Black foam tape (pad) .
(60) Blue plated metal (axle of gear) .
(61) Red plastic (wire insulator) .
(62) Black plastic (wire insulator) .
(63) Transparent yellow plastic adhesive tape (on battery) .
(64) Green fibre board (PCB of battery) .
(65) Blue fibre board (PCB) .
(66) Black plastic (IR sensor) .
(67) Silver color metal (lead of IR sensor) .
(68) Yellow body (SMD LED) .
(69) Off white plastic (connector slot) .
(70) Silver color metal (connector slot holder) .
(71) Silver color metal (pin of connector slot) .
(72) White plastic (switch of slide switch) .
(73) Black plastic (case of slide switch) .
(74) Silver color metal (frame of slide switch) .
(75) Silver color metal (contact plate of slide switch) .
(76) Silver color metal (lead of slide switch) .
(77) Muddy yellow body (capacitor) .
(78) Silver color metal (lead of capacitor) .
(79) Blue plastic (wire insulator of motor) .
(80) Red plastic (wire insulator of motor) .
(81) Gold color metal (gear) .
(82) White plastic (cap of motor) .
(83) Silver color metal (case of motor) .
(84) Silver color metal (tube of motor) .
(85) Copper color metal (washer of motor) .

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Screened components:

(86) Silver color metal (magnet of motor) .
(87) Silver color metal (commutator case of motor) .
(88) Transparent plastic (commutator of motor) .
(89) Copper color metal (coil of motor) .
(90) Transparent blue plastic (ring of motor) .
(91) Silver color metal (axle of motor) .
(92) Transparent red plastic (car, remote control case) .
(93) Transparent yellow plastic (car, remote control case) .

Date sample received: May 29, 2017
Testing period: May 29, 2017 to May 31, 2017

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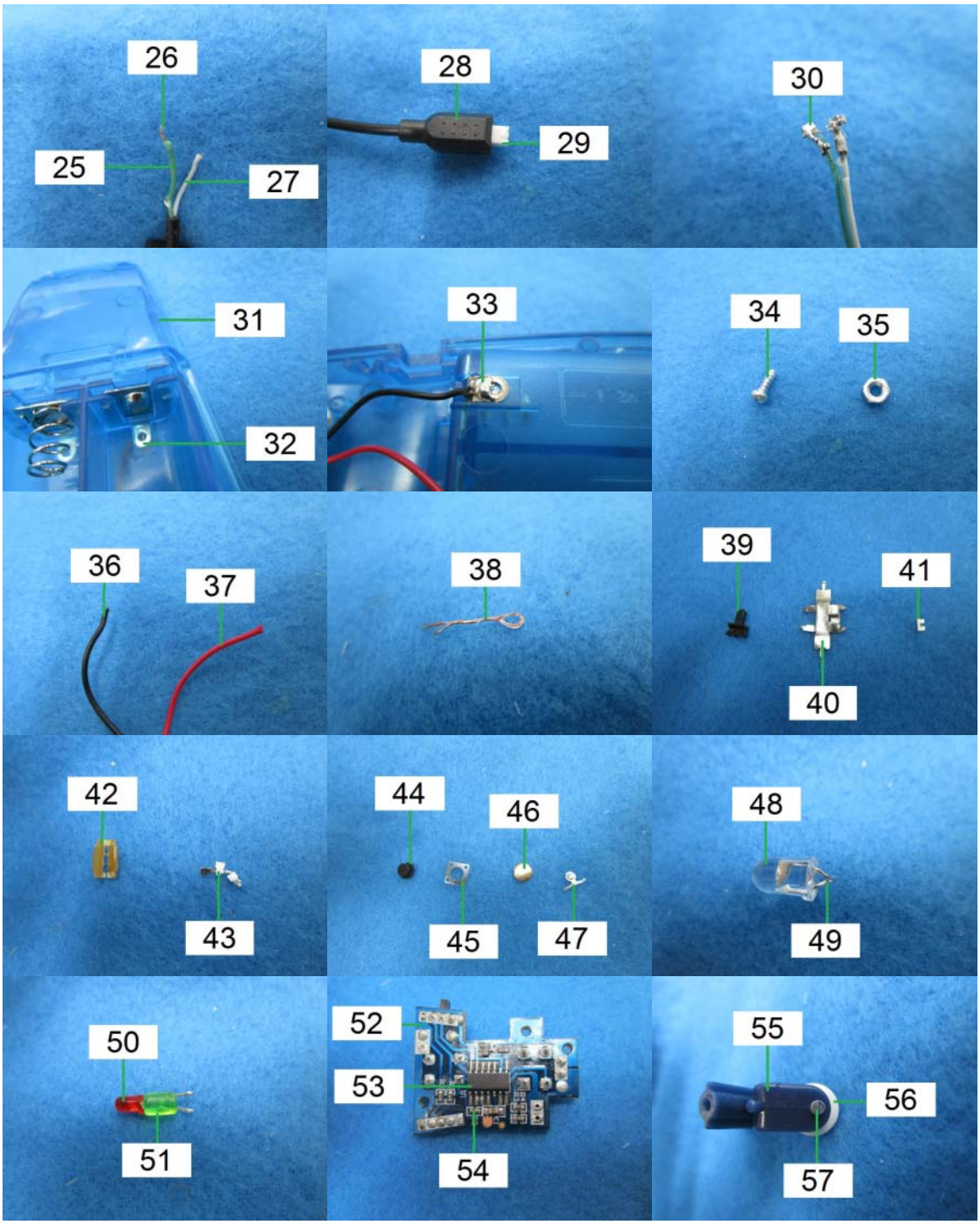

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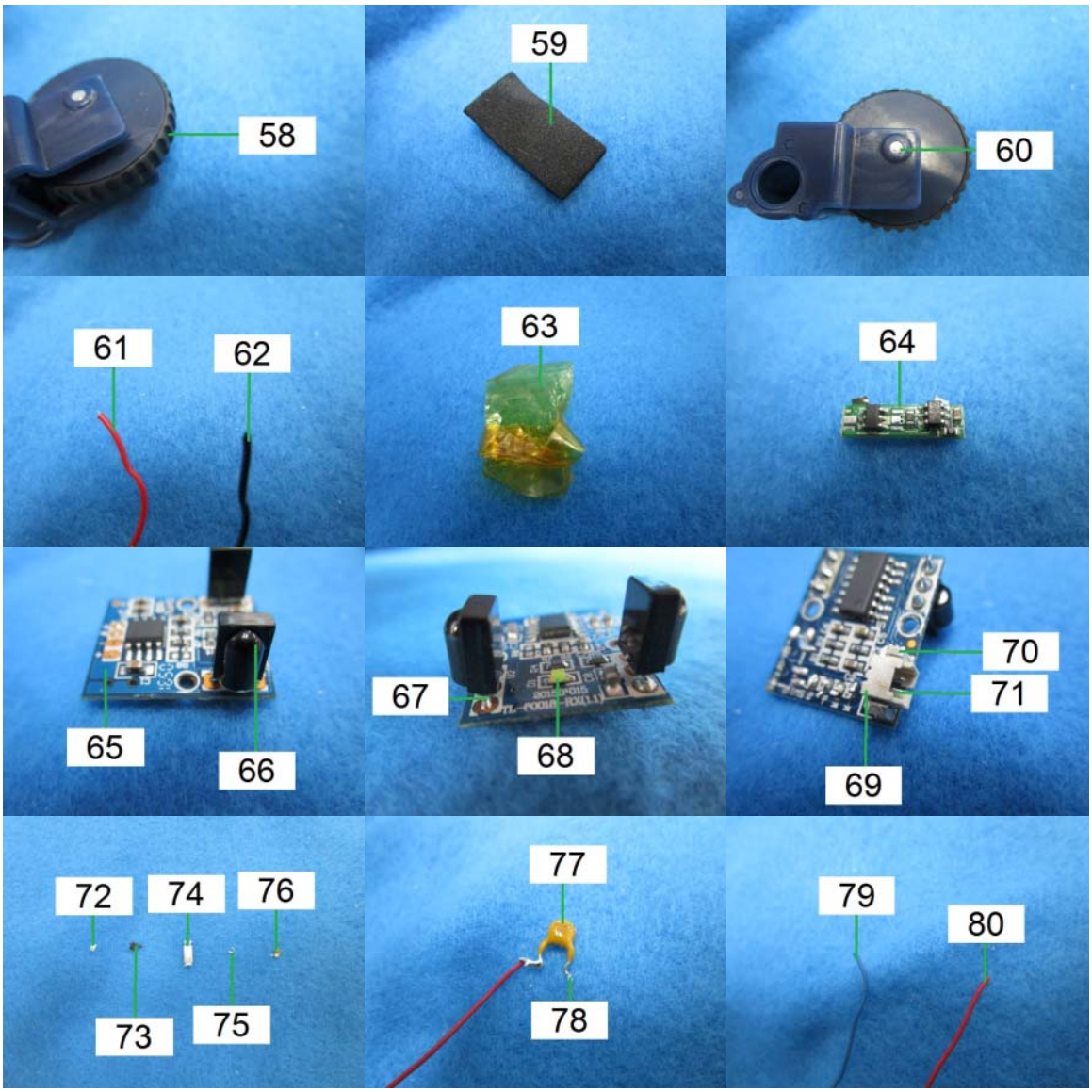

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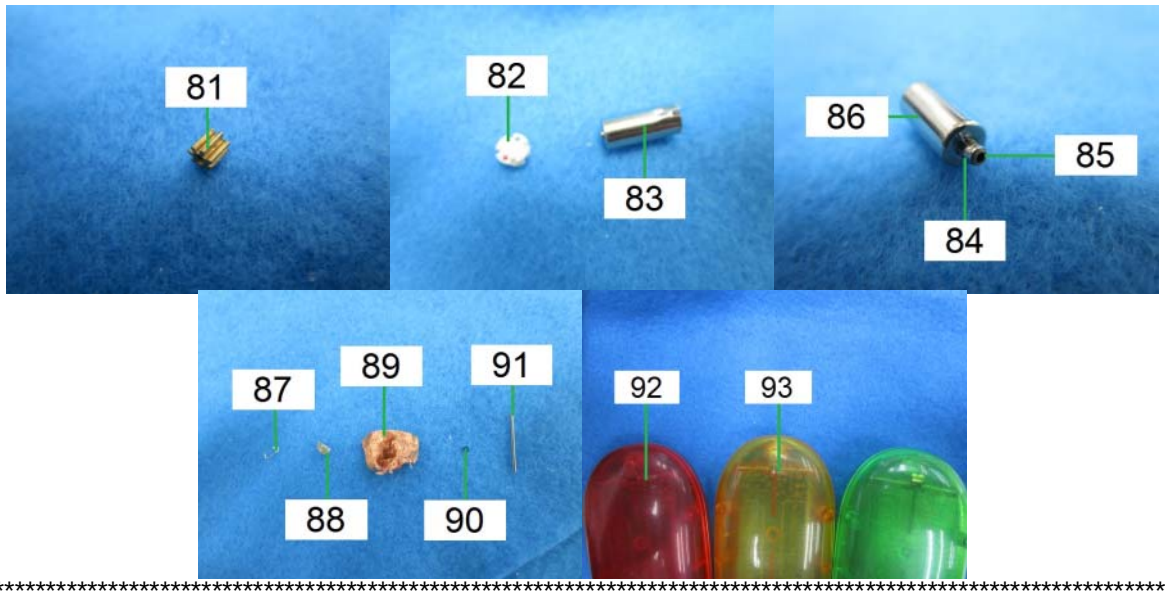

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End of report

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