

**Report No.:** GTS2109080594EN **Job No.:**33172 **Date:** September 27, 2021

Applicant : ZHEJIANG IWALK TECHNOLOGY CO., LTD.

Address : NO. 59-1 JUXING TECHNOLOGY PARK, JIAOJIANG DISTRICT,

TAIZHOU CITY, ZHEJIANG, PROVINCE

Sample Name : Electrical bike

Sample Model : RS1

Exported to : Europe U.S.A China

Country of Origin : China

Sample Receiving date: : 2021-09-08

Test period : 2021-09-08---2021-09-27

Test Requirement : The Restriction of the Use of Certain Hazardous Substances in Electrical

and Electronic Equipment, RoHS Directive 2011/65/EU and its amendment

Directive (EU) 2015/863.

Test Method : Please refer to next page(s).

Test result : Please refer to next page(s).

Conclusion : Please refer to next page(s).

Note : Test results are only related to test items.

Applicant, address, sample name and model, country of origin and export information have been provided by the customer. GTS is not responsible

for its authenticity.

For and on behalf of anghai Global Testing Services Co., Ltd.

Authorized Signature

Shi Lei/Kevin General Manger -GTS/SHO

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#### A. Pb, Cd, Cr(VI), Hg, PBBs&PBDEs

#### **Test Method:**

- 1. Disassembly, disjointment and mechanical sample preparation
  - -Ref. to IEC 62321-2: 2013, Disassembly, disjointment and mechanical sample preparation.
- 2. With reference to IEC 62321-1: 2013, tests were performed for the samples indicated by the photos in this report.
- (1) Screening Lead, mercury, cadmium, total chromium and total bromine
  - Ref. to IEC 62321-3-1: 2013, Screening for Lead, mercury, cadmium, total chromium and total bromine by X-ray fluorescence spectrometry.
- (2) Wet chemical test method
  - a. Total Lead, Cadmium, Chromium and Mercury content
- Ref. to IEC 62321-4: 2013+AMD1:2017, determination of Mercury in polymers, metals and electronics by ICP-OES.
  - —Ref. to IEC 62321-5: 2013, determination of Cadmium, lead and chromium in polymers and electronics and cadmium and lead in metals by ICP-OES.
  - b. Chromium (VI) content
  - —For Colourless and coloured corrosion-protected coatings on metals, Ref. to IEC 62321-7-1: 2015, determination of presence of hexavalent chromium (Cr(VI)) in colourless and coloured corrosion-protected coatings on metals by the colorimetric method.
  - For polymers and electronics, Ref. to IEC 62321-7-2: 2017, determination of hexavalent chromium (Cr(VI)) in polymers and electronics by the colorimetric method.
  - c. PBBs, PBDEs
  - -Ref. to IEC 62321-6: 2015, determination of polybrominated biphenyls and polybrominated diphenyl ethers in polymers by gas chromatograhy -mass spectrometry (GC-MS).



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#### Test result(s):

Part	Part Description		Resu	lts of E	OXRF		Chemical confirmation	Conclusion
No.	Part Description	Pb	Cd	Hg	Cr	Br	results (mg/kg)	Conclusion
1	Bicycle black bottom mat	BL	BL	BL	BL	BL		Pass
2	Bicycle holder	150 (BL)	BL	BL	IN		CrVI: Negative	Pass
3	Bicycle black barrel bracket	43 (BL)	BL	BL	BL			Pass
5	Crescent nut (large)	BL	BL	BL	IN		CrVI: Negative	Pass
6	Crescent nut (middle)	BL	BL	BL	BL			Pass
8	The brake handle	BL	BL	BL	IN		CrVI: Negative	Pass
9	Tap bar	BL	BL	BL	IN		CrVI: Negative	Pass
10	Cover the bar of the faucet	BL	BL	BL	BL	BL		Pass
11	Car bell casing	BL	BL	BL	IN		CrVI: Negative	Pass
12	Torsional spring	145 (BL)	BL	BL	IN		CrVI: Negative	Pass
13	Bell dial the slice	BL	BL	BL	BL	BL		Pass
15	Button	BL	BL	BL	BL	BL		Pass
16	Black display	BL	BL	BL	BL	BL		Pass
17	Black display side slider	IN	BL	BL	IN		Pb: 609 CrVI: Negative	Pass
18	Display bottom case	IN	BL	BL	IN		Pb: 603 CrVI: Negative	Pass
19	Black long screw	BL	BL	BL	IN		CrVI: Negative	Pass
20	Black stand for display	IN	BL	BL	IN		Pb: 591 CrVI: Negative	Pass
21	Rectangular PCB board inside display screen	115 (BL)	BL	BL	BL	IN	PBBs: N.D. PBDEs: N.D.	Pass
22	Digital display on PCB board	BL	BL	BL	BL	BL		Pass
23	Black button on PCB board	25 (BL)	BL	BL	BL	BL		Pass
24	Square cover on PCB board	BL	BL	BL	BL			Pass
25	Square metal cover on PCB board	BL	BL	BL	BL			Pass

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Part	Part Description		Resu	ılts of ED	OXRF		Chemical confirmation	Conclusion
No.	r art Description	Pb	Cd	Hg	Cr	Br	results (mg/kg)	Conclusion
26	BT7L components under metal cover	BL	BL	BL	BL	IN	PBBs: N.D. PBDEs: N.D.	Pass
27	U1 component under metal cover	BL	BL	BL	BL	BL		Pass
28	U7 components under metal cover	BL	BL	BL	BL	BL		Pass
29	BZ1 components under metal cover	24 (BL)	BL	BL	BL	IN	PBBs: N.D. PBDEs: N.D.	Pass
30	Soldering tin on PCB board	BL	BL	BL	BL			Pass
31	Front LED transparent light body	BL	BL	BL	BL	BL		Pass
33	Rear radiator exhaust of lamp body	68 (BL)	BL	BL	BL	IN	PBBs: N.D. PBDEs: 205	Pass
34	Nut	197 (BL)	BL	BL	IN		CrVI: Negative	Pass
35	Black plastic connector	BL	BL	BL	BL	BL		Pass
36	Mud flap	BL	BL	BL	BL	BL		Pass
37	Ventilation panel	BL	BL	BL	BL	BL		Pass
38	Metal mesh inside cover plate	54 (BL)	BL	BL	BL			Pass
39	Long black studs	127 (BL)	BL	BL	IN		CrVI: Negative	Pass
40	Black band	BL	BL	BL	IN		CrVI: Negative	Pass
41	Silvery screw (large)	BL	BL	BL	IN		CrVI: Negative	Pass
44	Black gasket	105 (BL)	BL	BL	IN		CrVI: Negative	Pass
45	Black rubber gasket	BL	BL	BL	BL	BL		Pass
46	Silver screw (small)	BL	BL	BL	IN		CrVI: Negative	Pass
47	Bicycle wheel tire	61 (BL)	BL	BL	BL	BL		Pass
48	Inner tube of bicycle wheel	65 (BL)	BL	BL	BL	BL		Pass
50	Wheel base material	58 (BL)	BL	BL	IN		CrVI: Negative	Pass

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Part	Part Description		Resu	lts of E	OXRF		Chemical confirmation	Conclusion	
No.	Part Description	Pb	Cd	Hg	Cr	Br	results (mg/kg)	Jonolusion	
51	Wheel hub coating	BL	BL	BL	BL	BL		Pass	
52	Brake disc	BL	BL	BL	IN		CrVI: Negative	Pass	
53	Bearing outer ring	65 (BL)	BL	BL	IN		CrVI: Negative	Pass	
54	Bearing inner ring	291 (BL)	BL	BL	IN		CrVI: Negative	Pass	
55	Bearing outer gasket	205 (BL)	BL	BL	IN		CrVI: Negative	Pass	
56	Steel ball	BL	BL	BL	IN		CrVI: Negative	Pass	
57	Steel ball external fixing sleeve	BL	BL	BL	IN		CrVI: Negative	Pass	
58	Center axis in hub	BL	BL	BL	IN		CrVI: Negative	Pass	
60	Black plastic top hat	BL	BL	BL	BL	BL		Pass	
61	Black nut	142 (BL)	BL	BL	IN		CrVI: Negative	Pass	
62	Hold the foot MATS	BL	BL	BL	BL	BL		Pass	
63	Brace body	210 (BL)	BL	BL	IN		CrVI: Negative	Pass	
64	Foot protector	BL	BL	BL	BL	BL		Pass	
65	Inner spring of brace foot protection sleeve	175 (BL)	BL	BL	IN		CrVI: Negative	Pass	
66	Foot pedal black body	BL	BL	BL	BL	BL		Pass	
67	Pedal external fixer	BL	BL	BL	BL	BL		Pass	
68	Side foot reflector	BL	BL	BL	BL	BL		Pass	
69	White backplate under reflector	BL	BL	BL	BL	BL		Pass	
70	Pedal internal spring	130 (BL)	BL	BL	IN		CrVI: Negative	Pass	
71	Latch on foot pedal	14 (BL)	BL	BL	BL			Pass	
72	Black screw	253 (BL)	BL	BL	IN		CrVI: Negative	Pass	
73	Silver fixing screw on tooth plate	BL	BL	BL	IN		CrVI: Negative	Pass	

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Part	Part Part Description		Resu	lts of E	OXRF		Chemical confirmation	Conclusion
No.	Part Description	Pb	Cd	Hg	Cr	Br	results (mg/kg)	Conclusion
74	Black gasket	78 (BL)	BL	BL	IN		CrVI: Negative	Pass
75	Black nut	131 (BL)	BL	BL	IN		CrVI: Negative	Pass
76	Extended shackle	105 (BL)	BL	BL	IN		CrVI: Negative	Pass
77	Tooth disc retainer	BL	BL	BL	BL	BL		Pass
78	Black tooth plate	BL	BL	BL	IN		CrVI: Negative	Pass
79	Black crank	61 (BL)	BL	BL	IN		CrVI: Negative	Pass
80	Black guard underneath the bike	BL	BL	BL	BL	BL		Pass
81	Metal mesh in guard plate	49 (BL)	BL	BL	IN		CrVI: Negative	Pass
82	Rear cushioning support base material	BL	BL	BL	IN		CrVI: Negative	Pass
83	Rear cushioning support coating	BL	BL	BL	BL	BL		Pass
84	Red hull	BL	BL	BL	BL	BL		Pass
85	Tower latch hook	268 (BL)	BL	BL	IN		CrVI: Negative	Pass
86	Hook screw	146 (BL)	BL	BL	IN		CrVI: Negative	Pass
87	The brake line	BL	BL	BL	IN		CrVI: Negative	Pass
88	Brake line terminal	BL	BL	BL	BL			Pass
89	Car chain outside locking ring	110 (BL)	BL	BL	IN		CrVI: Negative	Pass
90	Chain center ring	166 (BL)	BL	BL	IN		CrVI: Negative	Pass
91	Chain center shaft	86 (BL)	BL	BL	IN		CrVI: Negative	Pass
92	Corrugated pipe	BL	BL	BL	BL	BL		Pass
93	Silver ring	BL	BL	BL	IN		CrVI: Negative	Pass
94	Thick black leather	BL	BL	BL	BL	BL		Pass

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Part	Part Description		Resu	lts of E	DXRF	Chemical confirmation	Conclusion	
No.	Part Description	Pb	Cd	Hg	Cr	Br	results (mg/kg)	Conclusion
95	Black thick leather coated with black plastic	BL	BL	BL	BL	BL		Pass
96	Thin black leather	BL	BL	BL	BL	BL		Pass
97	White thin thread leather	BL	BL	BL	BL	BL		Pass
98	Thin red leather	BL	BL	BL	BL	BL		Pass
99	Thin blue leather	BL	BL	BL	BL	BL		Pass
100	Wire core	BL	BL	BL	BL			Pass

#### Remark:

- (^1) "---"= Not Applicable;
- (^2) (a) It is the result on total Br while test item on restricted substances is PBBs/PBDEs. It is the result on total Cr while test item on restricted substances is Cr(VI).
  - (b) The XRF screening test for RoHS elements-The reading may be different to the actual content in the sample be of non-uniformity composition.
  - (c) Results are obtained by EDXRF for primary screening, and further chemical testing by ICP-OES (for Pb, Cd, Hg), UV-VIS for Cr(VI) and GC/MSD (for PBBs/PBDEs) is recommended to be performed if the concentration exceeds the below warming value according to IEC 62321-3-1: 2013.

Attached table 1, XRF screening limits in mg/kg for regulated elements in various matrices:

Element	Polymer Materials	Metallic Materials	Electronics
Cd	BL≤(70-3σ)< X	BL≤(70-3σ)< X	LOD< X
	< (130+3σ) ≤OL	< (130+3σ) ≤OL	< (250+3σ) ≤OL
Pb	BL≤(700-3σ)< X	BL≤(700-3σ)< X	BL≤(500-3σ)< X
	< (1300+3σ) ≤OL	< (1300+3σ) ≤OL	< (1500+3σ) ≤OL
Hg	BL≤(700-3σ)< X	BL≤(700-3σ)< X	BL≤(500-3σ)< X
	< (1300+3σ) ≤OL	< (1300+3σ) ≤OL	< (1500+3σ) ≤OL
Br	BL≤(300-3σ)< X	N.A.	BL≤(250-3σ)< X
Cr	BL≤(700-3σ)< X	BL≤(700-3σ)< X	BL≤(500-3σ)< X

Note: ① BL "below limit" = the result less than the limit.

- ② OL "over limit" = the result greater than the limit.
- ③ IN = inconclusive, the region where need further chemical testing by ICP-OES (for Pb、Cd、Hg), UV-VIS (for Cr(VI)) and GC/MSD (for PBBs, PBDEs).
- 4  $3\sigma$  = Repeability of the analyser at the action level.
- (5) LOD = Limit of detection.

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(^3) (a) mg/kg=ppm=0.0001%;

(b) N.D. = Not detected (lower than RL);

(c) Reporting Limit (RL) and Limit of Directive 2011/65/EU.

Parameter	Unit	Limit	Reporting Limit (RL)
Lead (Pb)	mg/kg	1000	10
Cadmium (Cd)	mg/kg	100	10
Mercury (Hg)	mg/kg	1000	10
Chromium VI (Cr VI)	mg/kg	1000	R1
Group PBBs	mg/kg	1000	R2
Group PBDEs	mg/kg	1000	R2

R1: Cr(VI) for metal sample, the reporting limit (RL)= Method Detection Limit (MDL)=0.10 ug/cm<sup>2</sup>. The reporting limit (RL) of Cr(VI) for polymers and electronics is 10mg/kg.

R2: The reporting limit (RL) for single compound of PBBs & PBDEs is 50mg/kg.

(d) According to IEC 62321-7-1: 2015, result on Cr(VI) for metal sample is shown as Negative, Inconclusive or Positive: Negative = Absence of Cr(VI), Inconclusive = Maybe exist Cr(VI), Positive = Presence of Cr(VI).

Colorimetric result	Qualitative result
(Cr(VI) concentration)	Quantative result
The sample solution is < the 0.10	The sample is negative for Cr(VI)-The Cr(VI) concentration is
ug/cm² equivalent comparison	below the limit of quantification. The coating is considered a
standard solution	non-Cr(VI) based coating.
The sample solution is ≥ the 0.10	The result is considered to be inconclusive – Unavoidable
ug/cm² and ≤ the 0.13 ug/cm²	coating variations may influence the determination.
equivalent comparison standard	Recommendation: if addition samples are available, perform a
solutions	total of 3 trials to increase sampling surface area. Use the
	averaged result of the 3 trials for the final determination.
The sample solution is > the 0.13	The sample is positive for Cr(VI)-The Cr(VI) concentration is
ug/cm² equivalent comparison	above the limit of quantification and the statistical margin of
standard solution	error. The sample coating is considered to contain Cr(VI)



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#### B. Phthalates—DBP, BBP, DEHP & DIBP

Test Method: Ref. to IEC 62321-8: 2017

Determination of Phthalates in polymers by Gas Chromatography-Mass Spectrometry

(GC-MS)

#### Test result:

Test item	DBP	ВВР	DEHP	DIBP
Maximum Permissible Limit (mg/kg)	1000	1000	1000	1000

Material No.	DBP	ВВР	DEHP	DIBP	Conclusion
1	N.D.	N.D.	N.D.	N.D.	Pass
10	N.D.	N.D.	N.D.	N.D.	Pass
13	N.D.	N.D.	N.D.	N.D.	Pass
15	N.D.	N.D.	N.D.	N.D.	Pass
16	N.D.	N.D.	N.D.	N.D.	Pass
21	N.D.	N.D.	N.D.	N.D.	Pass
22	N.D.	N.D.	N.D.	N.D.	Pass
23	N.D.	N.D.	N.D.	N.D.	Pass
26	N.D.	N.D.	N.D.	N.D.	Pass
27	N.D.	N.D.	N.D.	N.D.	Pass
28	N.D.	N.D.	N.D.	N.D.	Pass
29	N.D.	N.D.	N.D.	N.D.	Pass
31	N.D.	N.D.	N.D.	N.D.	Pass
33	N.D.	N.D.	N.D.	N.D.	Pass
35	N.D.	N.D.	N.D.	N.D.	Pass
36	N.D.	N.D.	N.D.	N.D.	Pass
37	N.D.	N.D.	N.D.	N.D.	Pass

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Material No.	DBP	ВВР	DEHP	DIBP	Conclusion
45	N.D.	N.D.	N.D.	N.D.	Pass
47	N.D.	N.D.	N.D.	N.D.	Pass
48	N.D.	N.D.	N.D.	N.D.	Pass
51	N.D.	N.D.	N.D.	N.D.	Pass
60	N.D.	N.D.	N.D.	N.D.	Pass
62	N.D.	N.D.	N.D.	N.D.	Pass
64	N.D.	N.D.	N.D.	N.D.	Pass
66	N.D.	N.D.	N.D.	N.D.	Pass
67	N.D.	N.D.	N.D.	N.D.	Pass
68	N.D.	N.D.	N.D.	N.D.	Pass
69	N.D.	N.D.	N.D.	N.D.	Pass
77	N.D.	N.D.	N.D.	N.D.	Pass
80	N.D.	N.D.	N.D.	N.D.	Pass
83	N.D.	N.D.	N.D.	N.D.	Pass
84	N.D.	N.D.	N.D.	N.D.	Pass
92	N.D.	N.D.	N.D.	N.D.	Pass
94	442	N.D.	N.D.	N.D.	Pass
95	91	N.D.	N.D.	N.D.	Pass
96	N.D.	N.D.	N.D.	N.D.	Pass
91	N.D.	N.D.	N.D.	N.D.	Pass
98	N.D.	N.D.	198	N.D.	Pass
99	N.D.	N.D.	N.D.	N.D.	Pass

Remark: 1. Reporting Limit (RL) for BBP, DBP, DEHP, DIBP=50mg/kg.

<sup>2.</sup> N.D. = Not Detected (<RL).



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#### Sample photo(s):



Sample Name : Electrical bike Sample Model : RS1



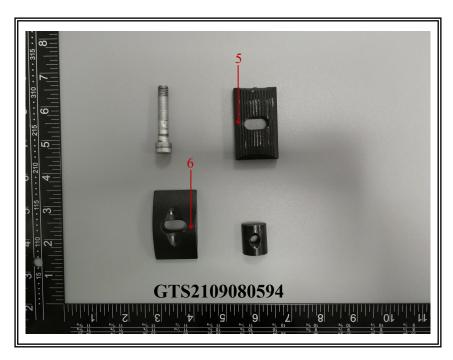
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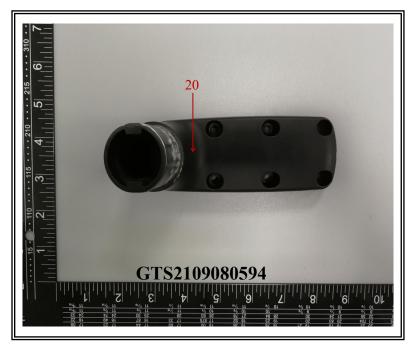




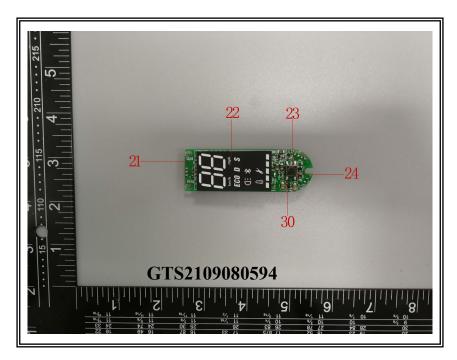


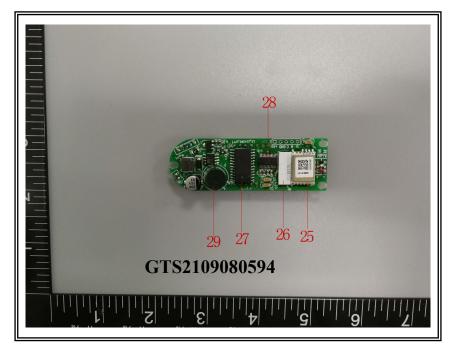












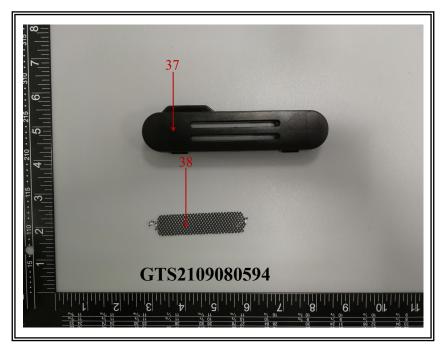
























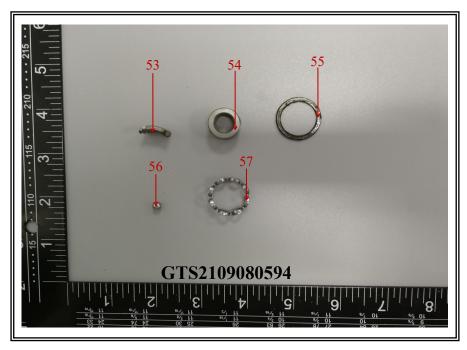












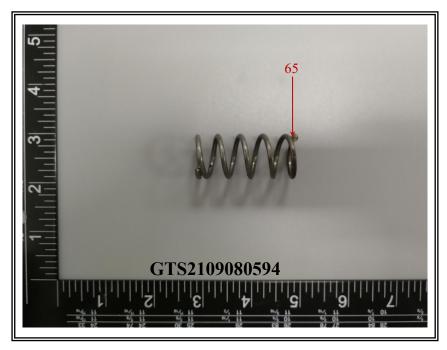






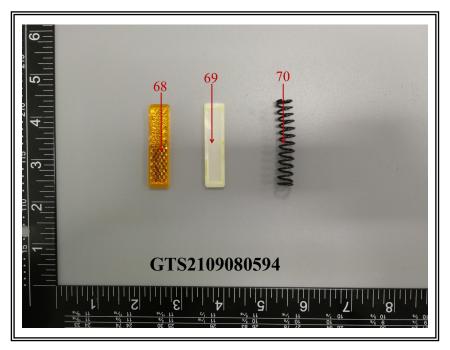


















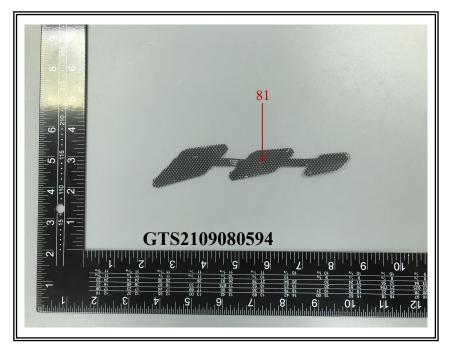










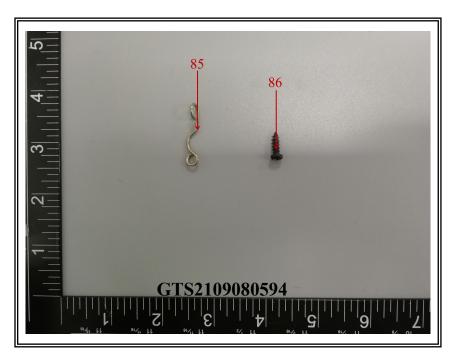


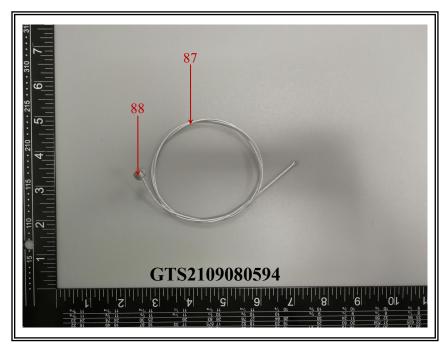




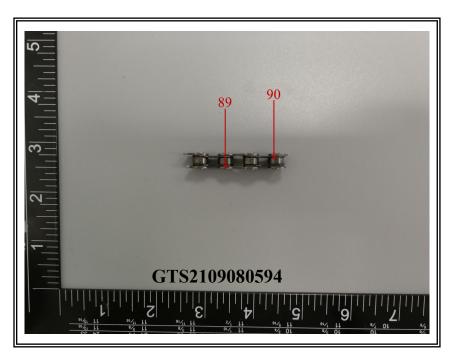


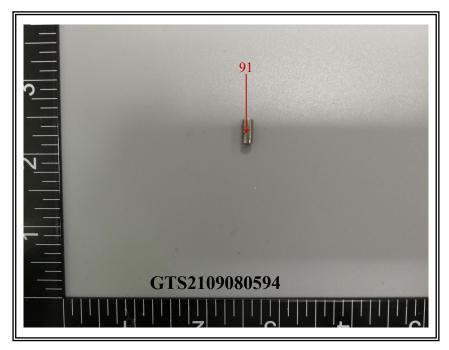






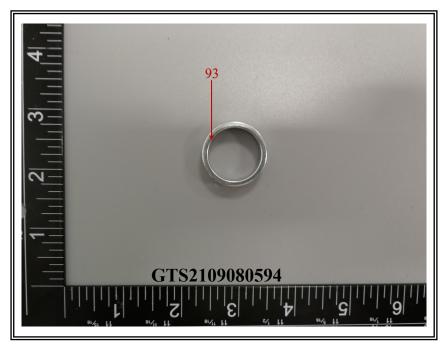




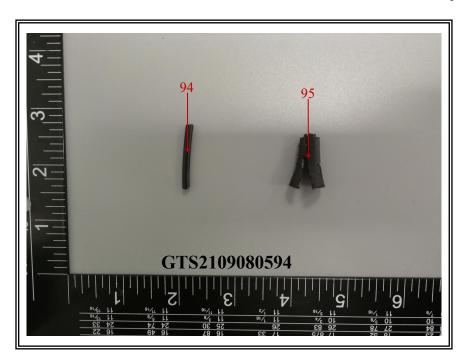


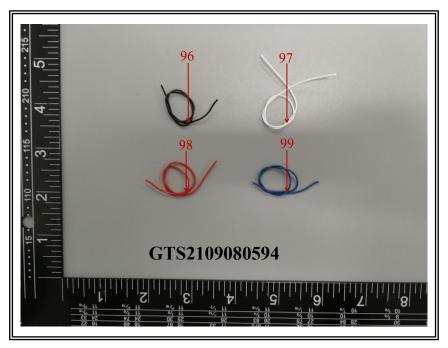




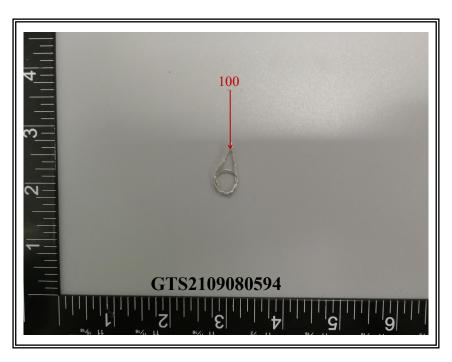












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