

TEST REPORT

Report No.:TBR-C-202505-0151-2

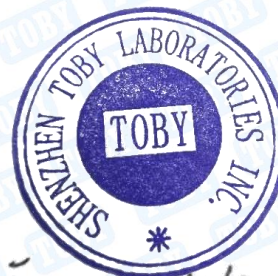
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Applicant Company : SUNSCOPE OPTICS LTD.
Address : Unit 1909,South Tower, 371-375 Huan Shi Dong Rd., Guangzhou
510095, China
Manufacturer : SUNSCOPE OPTICS LTD.
Address : Unit 1909,South Tower, 371-375 Huan Shi Dong Rd., Guangzhou
510095, China

Sample Information

Sample Name : SCOPE
Trade Mark : /
Basic Model No. : #17129
Series Model No. : /
Sample Received Date : May 22, 2025
Testing Period : May 22, 2025~June 27, 2025
Date of issue : June 27, 2025
Results : Please refer to next page(s).

TEST REQUEST	CONCLUSION
As specified by client, based on the performed tests on submitted sample, the result of Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), PBBs, PBDEs, Dibutyl Phthalate(DBP), Butylbenzyl Phthalate(BBP), Di-2-ethylhexyl Phthalate(DEHP) and Diisobutyl phthalate(DIBP) content comply with the limits set by RoHS Directive 2011/65/EU with amendment (EU) 2015/863.	Pass



Edited by:

Wick Wu

Approved by:

Evam Wen



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TEST RESULTS:

1. Screening test

Test method: With reference to IEC 62321-3-1:2013 and IEC 62321-8:2017. For Heavy Metals and Flame Retardants, analyzed by Energy Dispersive X-ray Fluorescence Spectrometer (XRF); for phthalates, analyzed by Gas Chromatography and Mass Spectrometer (GC-MS).

Sample No.	Sample Description	Heavy Metals and Flame Retardants					Phthalates			
		Cd	Pb	Hg	Cr [▼]	Br [▼]	DIBP	DBP	BBP	DEHP
1	Black metal wrench	BL	BL	BL	BL	N/A	N/A	N/A	N/A	N/A
2	Yellow cloth towel	BL	BL	BL	BL	BL	BL	BL	BL	BL
3	Black plastic shell	BL	BL	BL	BL	X	BL	BL	BL	BL
4	Black plastic shell	BL	BL	BL	BL	X	BL	BL	BL	BL
5	Black plastic sheet	BL	BL	BL	BL	BL	BL	BL	BL	BL
6	Black plastic shell	BL	BL	BL	BL	BL	BL	BL	BL	BL
7	Transparent glass	BL	BL	BL	BL	BL	BL	BL	BL	BL
8	Black metal screw	BL	BL	BL	BL	N/A	N/A	N/A	N/A	N/A
9	Black metal screw	BL	BL	BL	X	N/A	N/A	N/A	N/A	N/A
10	Black metal screw	BL	BL	BL	BL	N/A	N/A	N/A	N/A	N/A
11	Black metal screw	X	BL	BL	X	N/A	N/A	N/A	N/A	N/A
12	Black metal screw	BL	BL	BL	BL	N/A	N/A	N/A	N/A	N/A
13	Black metal shell	BL	BL	BL	BL	N/A	N/A	N/A	N/A	N/A
14	Black line skin	BL	BL	BL	BL	BL	BL	BL	BL	BL
15	Red line skin	BL	BL	BL	BL	BL	BL	BL	BL	BL
16	Transparent lamp bead	BL	BL	BL	BL	X	BL	BL	BL	BL
17	Silver metal shell	BL	OL	BL	BL	N/A	N/A	N/A	N/A	N/A
18	Silver sheet metal	BL	BL	BL	BL	N/A	N/A	N/A	N/A	N/A
19	Yellow metal sheet	BL	BL	BL	BL	N/A	N/A	N/A	N/A	N/A
20	Black metal spring	BL	BL	BL	BL	N/A	N/A	N/A	N/A	N/A
21	Black metal spring	BL	BL	BL	BL	N/A	N/A	N/A	N/A	N/A
22	Black metal shell	BL	BL	BL	BL	N/A	N/A	N/A	N/A	N/A
23	Silver sheet metal	BL	BL	BL	X	N/A	N/A	N/A	N/A	N/A
24	Green PCB board	BL	BL	BL	BL	X	BL	BL	BL	BL
25	Silver sheet metal	BL	BL	BL	BL	N/A	N/A	N/A	N/A	N/A



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Sample No.	Sample Description	Heavy Metals and Flame Retardants					Phthalates			
		Cd	Pb	Hg	Cr ^{VI}	Br ^{VI}	DIBP	DBP	BBP	DEHP
26	Transparent plastic sheet	BL	BL	BL	BL	BL	BL	BL	BL	BL
27	White plastic sheet	BL	BL	BL	BL	BL	BL	BL	BL	BL
28	Introduction of silver metal	BL	BL	BL	BL	N/A	N/A	N/A	N/A	N/A
29	Solder	BL	BL	BL	BL	N/A	N/A	N/A	N/A	N/A
30	Black metal sheet	BL	BL	BL	BL	N/A	N/A	N/A	N/A	N/A

NOTE :

- "BL" denotes below limit
- "OL" denotes over limit, further confirmation test was conducted
- "X" denotes inconclusive, further confirmation test was conducted
- "NA" denotes not applicable
- As requested by the applicant, only the selected components listed in this report were tested.
- The test results of No.5,26,29 were conducted on the resubmitted samples on June 25,2025.

Remark :

- 1) Results were obtained by XRF for primary screening, and further chemical testing by ICP(for Cd, Pb, Hg), UV-Vis(for Cr(VI)) and GC-MS(for PBBs, PBDEs) are recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321-3-1:2013(Unit: mg/kg).

Element	Polymers	Metals	Composite material
Cd	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$LOD < X < (150+3\sigma) \leq OL$
Pb	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Hg	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$
Br	$BL \leq (300-3\sigma) < X$	/	$BL \leq (250-3\sigma) < X$

- 3σ = The reproducibility of analytical instruments
- "/" = Not applicable
- LOD = Detection limit

- 2) The XRF screening test for RoHS elements – The reading may be different to the actual content in the



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sample be of non-uniformity composition.

- 3) The maximum permissible limit is quoted from the document RoHS Directive 2011/65/EU with amendment (EU) 2015/863.
- 4) ▼=For restricted substances PBBs and PBDEs, the results show the total Br content, the restricted substance was Cr(VI), and the results showed the total Cr content.
- 5) Screening results of phthalates are for primary screening, and further chemical testing by GC-MS (for DBP, BBP, DEHP and DIBP) are recommended to be performed if the concentration exceeds the below warning value(Unit: mg/kg).

Test item	Screening limit
Di-2-ethylhexyl phthalate(DEHP)	BL≤600<X
Dibutyl phthalate(DBP)	BL≤600<X
Benzylbutyl phthalate(BBP)	BL≤600<X
Diisobutyl phthalate(DIBP)	BL≤600<X

Disclaimers:

This XRF Screening 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 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.



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2. Chemical test for further confirmation.

1) The test results of Lead (Pb) and Cadmium (Cd)

Test method: With reference to IEC 62321-5:2013, by acid digestion and analysis was performed by inductively coupled plasma atomic emission spectrometer (ICP-OES)

Item	Unit	MDL	Results	Limit
			(17)	
Lead (Pb) Content	mg/kg	5	27276 ^{#1}	1000

Item	Unit	MDL	Results	Limit
			(11)	
Cadmium (Cd) Content	mg/kg	5	N.D.	100

2) The test results of Hexavalent Chromium(Cr(VI)) (for metal)

Test method: With reference to IEC 62321-7-1:2015, extracted with boiling water and analysis was performed by UV-visible spectrophotometer (UV-Vis)

Tested Items	Unit	LOQ	Results			Limit
			(9)	(11)	(23)	
Hexavalent Chromium(Cr(VI)) Content★	µg/cm ²	0.10	Negative	Negative	Negative	0.13

3) The test results of PBBs & PBDEs

Test method: With reference to IEC 62321-6:2015, by solvent extraction and analysis was performed by gas chromatographic-mass spectrometer (GC-MS)

Tested Items	Unit	MDL	Results		Limit
			(3,4)	(16,24)	
Polybrominated Biphenyls(PBBs) Content					
Monobromobiphenyl	mg/kg	50	N.D.	N.D.	-
Dibromobiphenyl	mg/kg	50	N.D.	N.D.	-
Tribromobiphenyl	mg/kg	50	N.D.	N.D.	-



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Tetrabromobiphenyl	mg/kg	50	N.D.	N.D.	-
Pentabromobiphenyl	mg/kg	50	N.D.	N.D.	-
Hexabromobiphenyl	mg/kg	50	N.D.	N.D.	-
Heptabromobiphenyl	mg/kg	50	N.D.	N.D.	-
Octabromobiphenyl	mg/kg	50	N.D.	N.D.	-
Nonabromodiphenyl	mg/kg	50	N.D.	N.D.	-
Decabromodiphenyl	mg/kg	50	N.D.	N.D.	-
Total content	mg/kg	-	N.D.	N.D.	1000
Polybrominated Diphenylethers(PBDEs) Content					
Monobromodiphenyl ether	mg/kg	50	N.D.	N.D.	-
Dibromodiphenyl ether	mg/kg	50	N.D.	N.D.	-
Tribromodiphenyl ether	mg/kg	50	N.D.	N.D.	-
Tetrabromodiphenyl ether	mg/kg	50	N.D.	N.D.	-
Pentabromodiphenyl ether	mg/kg	50	N.D.	N.D.	-
Hexabromodiphenyl ether	mg/kg	50	N.D.	N.D.	-
Heptabromodiphenyl ether	mg/kg	50	N.D.	N.D.	-
Octabromodiphenyl ether	mg/kg	50	N.D.	N.D.	-
Nonabromodiphenyl ether	mg/kg	50	N.D.	N.D.	-
Decabromodiphenyl ether	mg/kg	50	N.D.	N.D.	-
Total content	mg/kg	-	N.D.	N.D.	1000

Remark :

- MDL = Method Detection Limit
- “-” = Not Regulated
- N.D.=Not Detected(<MDL or LOQ)
- mg/kg = ppm=parts per million
- LOQ = Limit of Quantification, The LOQ of Hexavalent chromium is 0.10 $\mu\text{g}/\text{cm}^2$
- ★ = a. The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13 $\mu\text{g}/\text{cm}^2$. The sample coating is considered to contain Cr(VI).
b. The sample is negative for Cr(VI) if Cr(VI) is N.D.(concentration less than 0.10 $\mu\text{g}/\text{cm}^2$). The sample coating is considered a non- Cr(VI) based coating.
c. The result between 0.10 $\mu\text{g}/\text{cm}^2$ and 0.13 $\mu\text{g}/\text{cm}^2$ is considered to be inconclusive, unavoidable coating variations may influence the determination.



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- Information on storage conditions and production date of the tested samples is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.
- #1 According to RoHS Directive 2011/65/EU and its amendments, Lead is exempted as an alloying element in Copper containing up to 4% (40000ppm) by weight.

RoHS Restricted Substances	Maximum Concentration Value (mg/kg) (by weight in homogenous materials)
Cadmium(Cd)	100
Lead(Pb)	1000
Mercury(Hg)	1000
Hexavalent Chromium(Cr(VI))	1000
Polybrominated biphenyls(PBBs)	1000
Polybrominated diphenylethers(PBDEs)	1000
Dibutyl Phthalate(DBP)	1000
Butylbenzyl Phthalate(BBP)	1000
Di-(2-ethylhexyl) Phthalate(DEHP)	1000
Diisobutyl phthalate(DIBP)	1000



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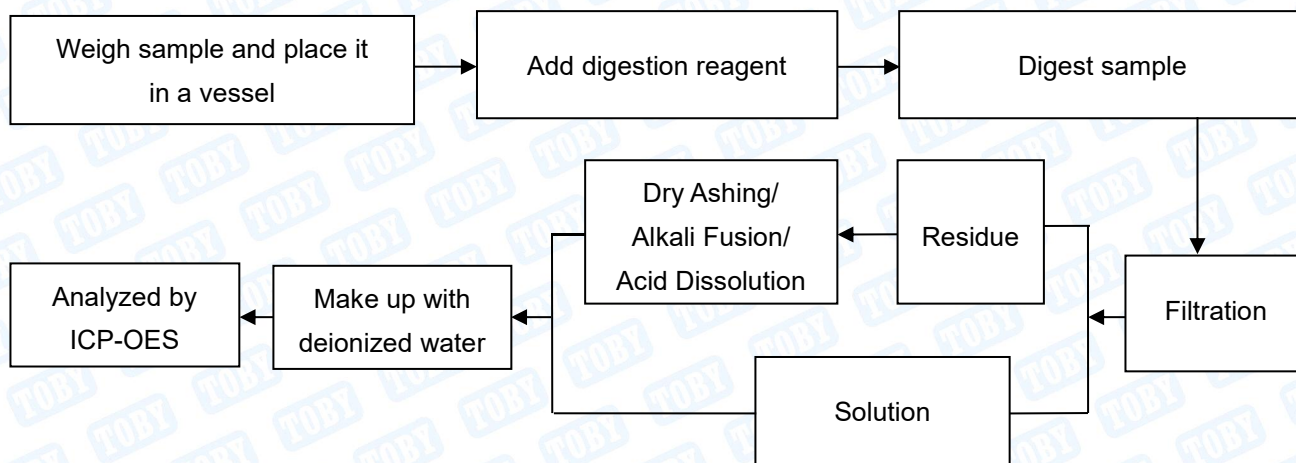
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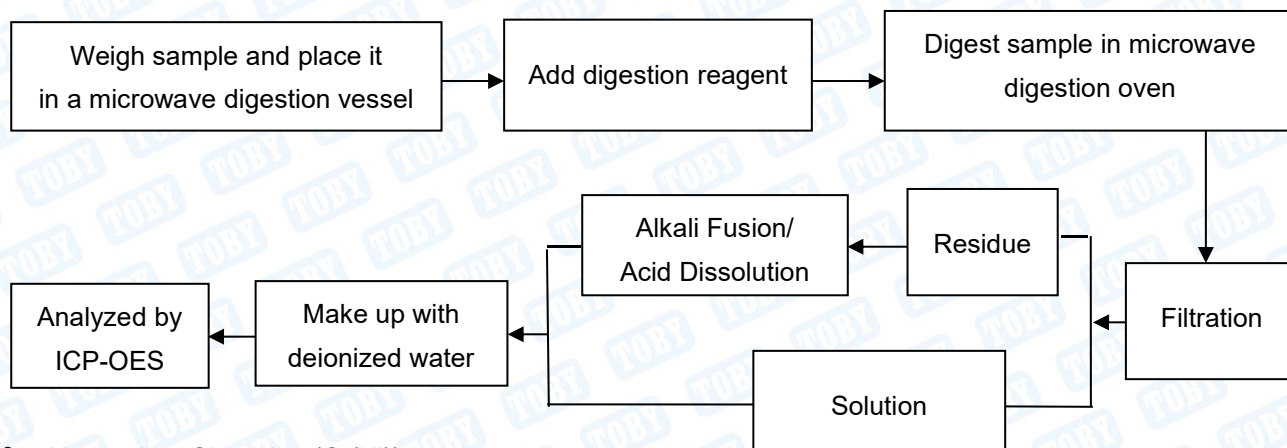
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Test Process

1. Lead(Pb) & Cadmium(Cd): IEC 62321-5:2013

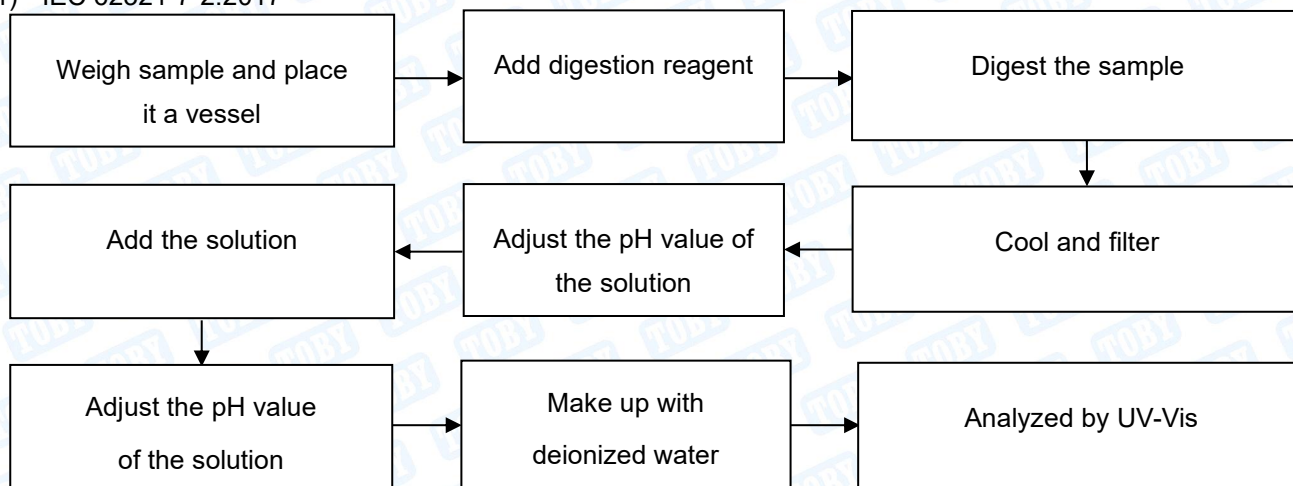


2. Mercury(Hg): IEC 62321-4:2013+AMD1:2017 CSV



3. Hexavalent Chromium(Cr(VI))

1) IEC 62321-7-2:2017



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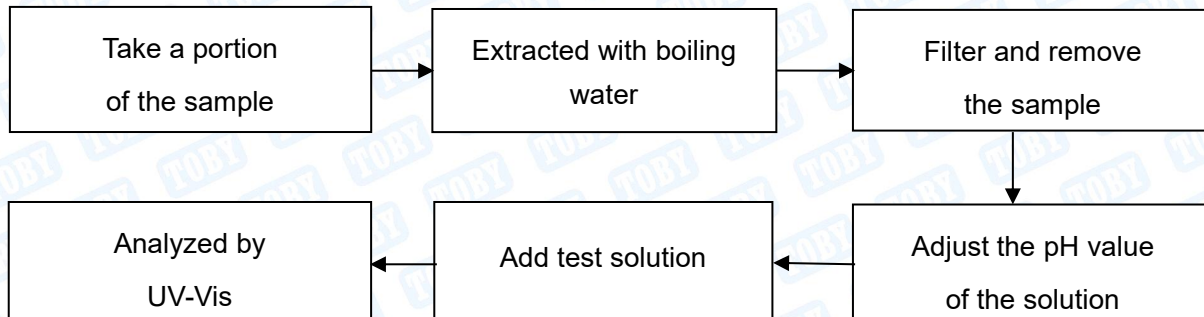
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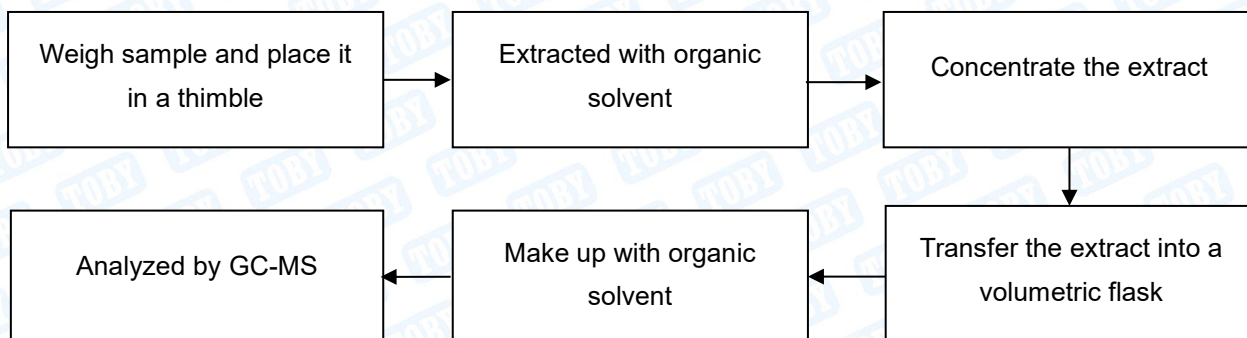
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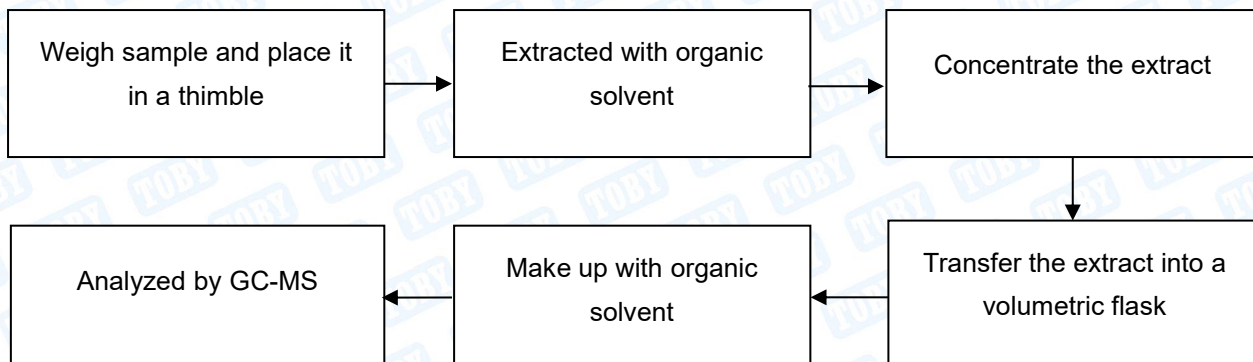
2) IEC 62321-7-1:2015



4. Polybrominated Biphenyls(PBBs) & Polybrominated Diphenyl Ethers(PBDEs) : IEC 62321-6:2015



5. Phthalates(DBP, BBP, DEHP & DIBP) : IEC 62321-8:2017



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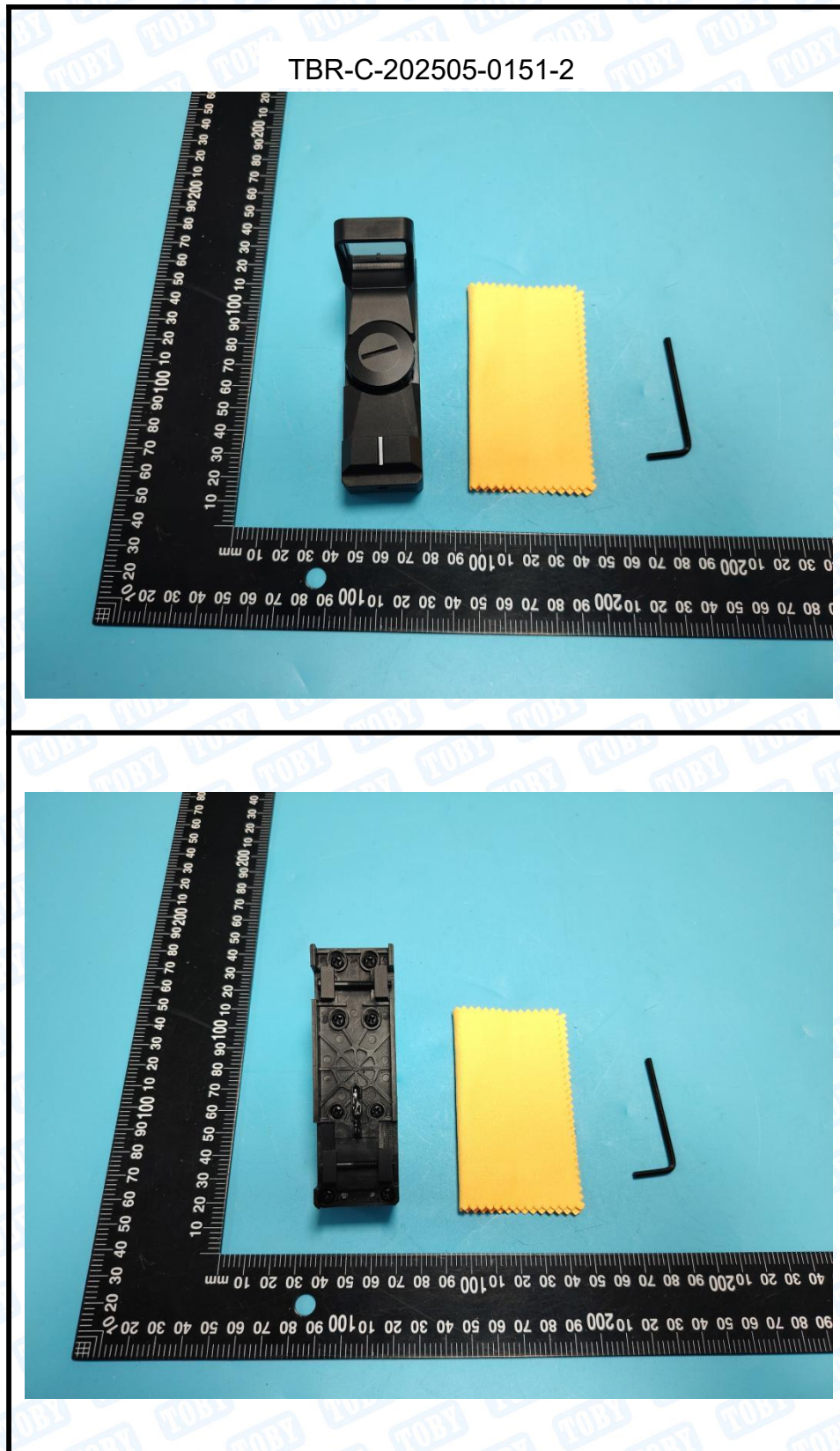
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Sample Photo(s)



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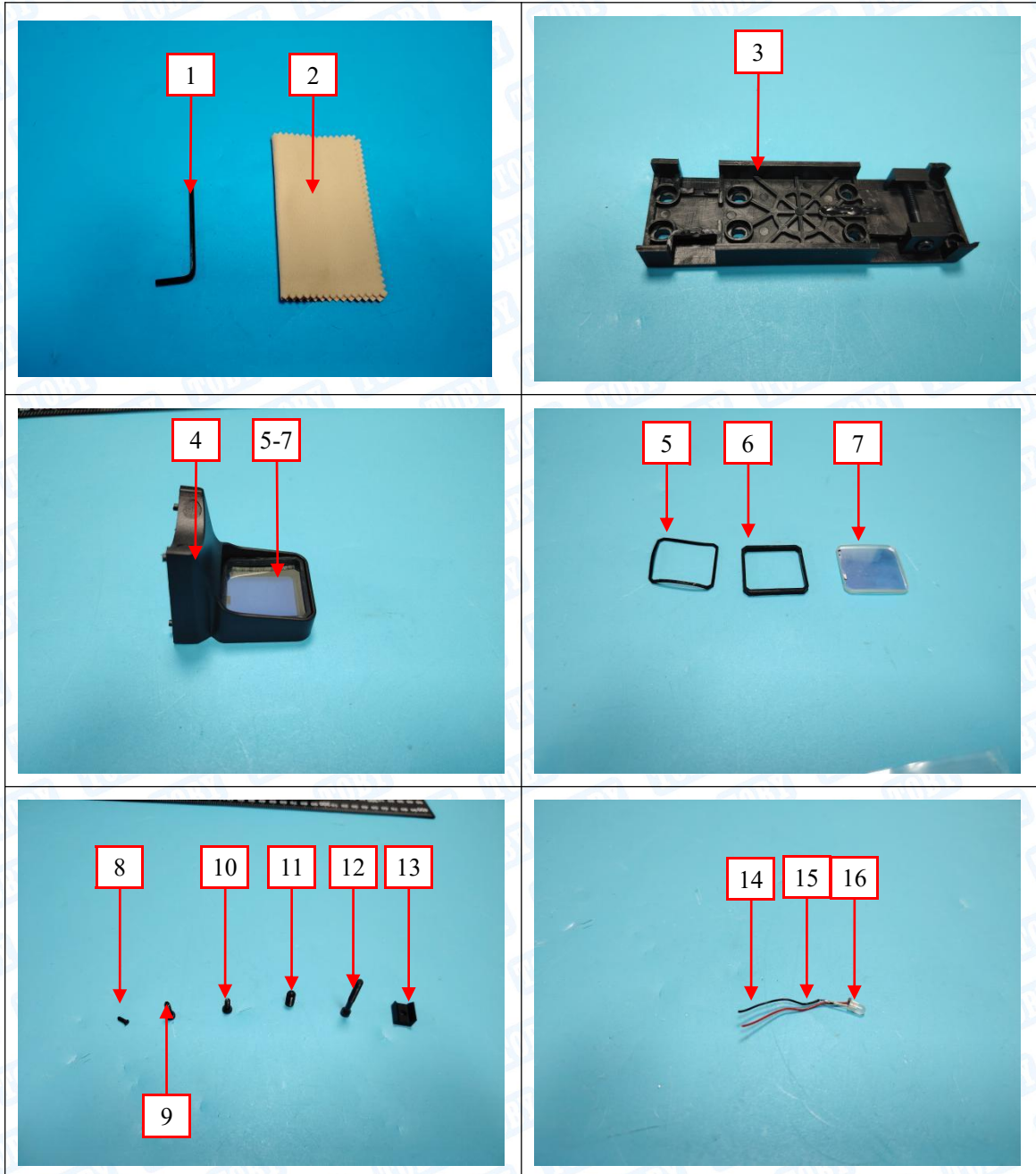
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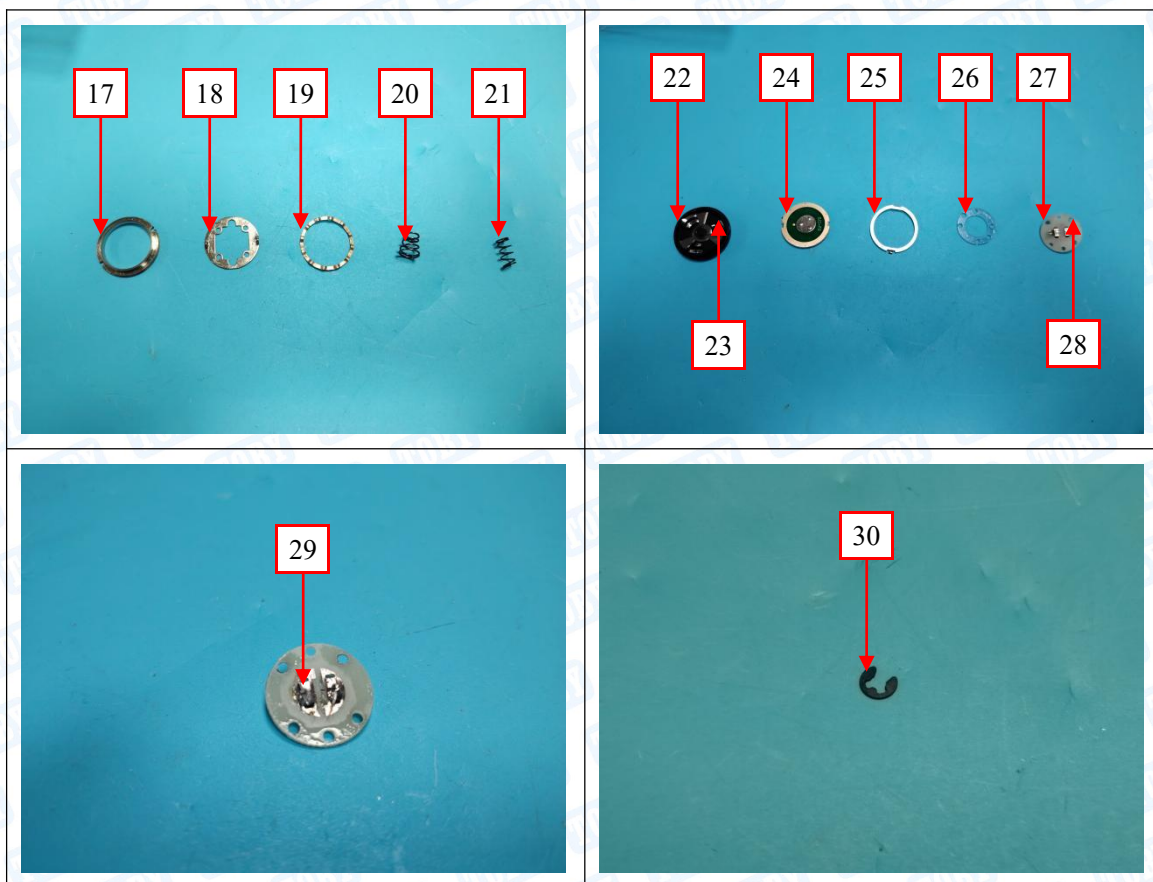
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Statement:

1. The information as listed on the first page of this test report was all provided by the client except the sample from, date received, test period, test results and conclusion. The client shall be responsible for the representativeness of sample and authenticity of materials, for which TOBY shall bear no responsibilities.
2. This test data is only responsible for the tested sample. The judgment method of determining the conformity in this test report is according to the measured value without considering the risk caused by uncertainty, unless otherwise clearly stipulated in special agreement, standard or specification. The client shall assume the risk caused by the judgment method, and TOBY shall not bear related responsibilities.
3. The test report is effective only with both signature and specialized stamp. Without written approval of TOBY, this report can't be reproduced in full or in part.
4. The results in the report if there is no CMA mark are only used for the client's scientific research, teaching, internal quality control etc., and shall not be used as proof of commercial use or legal action.
5. The marked with special symbols in CNAS logo report means that the test item(s) was(were) currently not applying for CNAS accreditation.

***** END OF REPORT *****



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