RoHS TEST REPORT

Report No.:	**STE24091802R**
Product:	LED Display
Model No.:	P3.91, (others refer to page 2)
Prepared for:	**LITESTAR LED CO., LTD**
Address:	E Area, 3rd Building, Yunzhi Technology Park, Shuangming Road, Guangming District, Shenzhen City, China.
Prepared by:	**Shenzhen STE Testing Laboratory Co., Ltd.**
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Test Report

Date: September 24, 2024

Report No: STE24091802R

Applicant.....: **LITESTAR LED CO., LTD**

Address ..... : E Area, 3rd Building, Yunzhi Technology Park, Shuangming Road, Guangming District, Shenzhen City, China.

Manufacturer..: **LITESTAR LED CO., LTD**

Address ..... : E Area, 3rd Building, Yunzhi Technology Park, Shuangming Road, Guangming District, Shenzhen City, China.

The following sample(s) was/were submitted and identified on behalf of the clients as:
Sample Name: **LED Display**
Model No. : **P3.91**
Client Ref. Info.: Client declares that the same material as above model are: P0.9, P1.2, P1.5, P1.6, P1.8, P1.9, P1.95, P2, P2.5, P2.6, P2.604, P2.9, P2.97, P3, P3.9, P3.9-7.8, P4.8, P4.81, P5, P6, P6.25, P6.67, P7.8, P7.81, P8, P10, P10.4, P12, P16, P20
Trade mark: N/A

Date of Sample Received .:	September 10, 2024
Testing Period ..... :	September 10, 2024 - September 24, 2024
Test Requested ..... :	Selected test(s) as requested by client.
Test Method ..... :	Please refer to next page(s).
Test Results ..... :	Please refer to next page(s).
Conclusion ..... :	Based on the performed tests on submitted sample(s), the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), DEHP, BBP, DBP, DIBP comply with the limits as set by RoHS Directive (EU)2015/863 and 2011/65/EU & (EU) 2017/2102

Signed for and on behalf of
Shenzhen STE Testing Laboratory Co., Ltd.

Written By: Todd Qian
Todd Qian

Approved by: Fly Li
Fly Li

STE TESTING LABORATORY * APPROVED *

Restriction of Hazardous Substances Directive (RoHS), (EU)2017/2102, (EU) 2015/863 & 2011/65/EU

List of Analytes and their Corresponding Test Methods [European Council Directive (EU) 2015/863 & 2011/65/EU] :

Name of Analytes		Test Method(s)
Pb	Lead (Pb)	With reference to EN 62321-5: 2014; by ICP-OES.
Cd	Cadmium (Cd)	
Hg	Mercury (Hg)	With reference to EN 62321-4: 2014+ A1: 2017; by ICP-OES.
Cr^{6+}	Chromium VI (Cr VI)	Metal : With reference to EN 62321-7-1: 2015. Polymers & Electronics : With reference to EN 62321-7-2: 2017. using UV-Vis.
PBBs	Polybrominated Biphenyls (Sum of PBBs)	With reference to EN 62321-6: 2015, by GC-MS.
	Bromobiphenyls	
	Dibromobiphenyls	
	Tribromobiphenyls	
	Tetrabromobiphenyls	
	Pentabromobiphenyls	
	Hexabromobiphenyls	
	Heptabromobiphenyls	
	Octabromobiphenyls	
	Nonabromobiphenyls	
	Decabromobiphenyl	
PBDEs	Polybrominated Diphenyl Ethers (Sum of PBDEs)	
	Bromodiphenyl ethers	
	Dibromodiphenyl ethers	
	Tribromodiphenyl ethers	
	Tetrabromodiphenyl ethers	
	Pentabromodiphenyl ethers	
	Hexabromodiphenyl ethers	
	Heptabromodiphenyl ethers	
	Octabromodiphenyl ethers	
	Nonabromodiphenyl ethers	
	Decabromodiphenyl ether	
Phthalate	Bis-(2-ethylhexyl) Phthalate (**DEHP**)	With reference to EN 62321-8: 2017. by GC-MS
	Benzylbutyl Phthalate (**BBP**)	
	Dibutyl Phthalate (**DBP**)	
	Diisobutyl phthalate (**DIBP**)	

TEST RESULT

No.	TEST ITEMS		Lead (Pb)	Cadmium (Cd)	Mercury (Hg)	Hexavalent Chromium (Cr^{6+})	PBBs	PBDEs
	UNIT		ppm	ppm	ppm	ppm	ppm	ppm
	Limit		1000	100	1000	1000	1000	1000
1.	LED display	Black plastic	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
		Black metal	N.D.	N.D.	N.D.	N.D.	--	--
		Silvery metal	16	N.D.	N.D.	N.D.	--	--
2.	Data Connector	Black plastic	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
		Silver metal	17	10	N.D.	18	N.D.	N.D.
3.	Frame	Black metal	20	9	N.D.	16	N.D.	N.D.
4.	Screw	Silvery metal screw	39.3	N.D.	N.D.	64	--	--
5.	Tin	Silvery metal	150	N.D.	N.D.	N.D.	N.D.	N.D.
6.	Supply cord	Black PVC plastic jacket	N.D.	N.D.	N.D.	29.6	N.D.	N.D.
		Brown PVC Plastic jacket	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
		Red PVC Plastic jacket	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
		Blue PVC Plastic jacket	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
		Green/Yellow PVC Plastic jacket	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
		Coppery metal wire	50	N.D.	N.D.	N.D.	--	--
7.	Chip resistor	Black body w/ silvery metal	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
8.	Inductor	Coppery wire	6	N.D.	N.D.	N.D.	N.D.	N.D.
		Black magnet metal	10	N.D.	N.D.	N.D.	N.D.	N.D.
		Black glue	25	3	N.D.	47	N.D.	N.D.
9.	Capacitor	Black body	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
		Silvery metal	N.D.	N.D.	N.D.	N.D.	--	--

No.	TEST ITEMS		Lead (Pb)	Cadmium (Cd)	Mercury (Hg)	Hexavalent Chromium (Cr^{6+})	PBBs	PBDEs
	UNIT		ppm	ppm	ppm	ppm	ppm	ppm
	Limit		1000	100	1000	1000	1000	1000
10.	Inductor	Black rubber	33	N.D.	N.D.	60	N.D.	N.D.
		Coppery metal wire	N.D.	N.D.	N.D.	N.D.	--	--
		Black solid	N.D.	N.D.	N.D.	90	N.D.	N.D.
11.	Transformer	Yellow tape	47	3	N.D.	20	N.D.	N.D.
		Transparent plastic tube	8.5	N.D.	N.D.	7.5	N.D.	N.D.
		Black plastic tube	N.D.	N.D.	N.D.	45	N.D.	N.D.
		Black magnet solid	N.D.	N.D.	14.9	N.D.	N.D.	N.D.
		Coppery metal wire	209	N.D.	N.D.	120	N.D.	N.D.
12.	Y capacitor	Blue body w/ silvery metal	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
13.	Aluminium electrolytic capacitors	Electrolyte w/ silvery metal	6	N.D.	N.D.	N.D.	N.D.	N.D.
		Purple plastic sheet	38	N.D.	N.D.	N.D.	N.D.	N.D.
		Silvery metal	N.D.	N.D.	N.D.	N.D.	--	--
		Grey plastic sheet	N.D.	N.D.	N.D.	19	N.D.	N.D.
		Black rubber	N.D.	N.D.	N.D.	27	N.D.	N.D.
14.	White glue	White glue	N.D.	N.D.	N.D.	28	N.D.	N.D.
15.	PCB	Green board w/ silvery metal	N.D.	N.D.	N.D.	14	N.D.	N.D.
16.	Heat sink	Silvery metal	N.D.	N.D.	N.D.	30	N.D.	N.D.
17.	IC	Black body	61	N.D.	N.D.	10	N.D.	N.D.
		Silvery metal	5	N.D.	N.D.	N.D.	N.D.	N.D.
18.	Diode	Silvery metal	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
		Black body	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

No.	TEST ITEMS		Lead (Pb)	Cadmium (Cd)	Mercury (Hg)	Hexavalent Chromium (Cr^{6+})	PBBs	PBDEs
	UNIT		ppm	ppm	ppm	ppm	ppm	ppm
	Limit		1000	100	1000	1000	1000	1000
19.	Connector	White plastic	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
		Silvery metal	21	N.D.	N.D.	30	N.D.	N.D.
20.	Double-sided tape	Blue tape	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
		White foam w/ glue	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
21.	Label	White paper w/ black ink	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Notes :

(1) The maximum permissible limit is quoted from the directive 2011/65/EU, Annex II

Remarks :

(1) 1 mg/kg = 1 ppm = 0.0001%

(2) MDL = Method Detection Limit

(3) ND = Not Detected (< MDL)

(4) "--" = Not Regulated

No.	TEST ITEMS		Bis-(2-ethylhexyl) Phthalate **(DEHP)**	Benzylbutyl Phthalate **(BBP)**	Dibutyl Phthalate **(DBP)**	Diisobutyl phthalate (**DIBP**)
	UNIT		ppm	ppm	ppm	ppm
	Limit		1000	1000	1000	1000
1.	LED display	Black plastic	N.D.	N.D.	N.D.	N.D.
		Black metal	--	--	--	--
		Silvery metal	--	--	--	--
2.	Data Connector	Black plastic	N.D.	N.D.	N.D.	N.D.
		Silver metal	--	--	--	--
3.	Frame	Black metal	N.D.	N.D.	N.D.	N.D.
4.	Screw	Silvery metal screw	--	--	--	--
5.	Tin	Silvery metal	N.D.	N.D.	N.D.	N.D.
6.	Supply cord	Black PVC plastic jacket	213	N.D.	N.D.	N.D.
		Brown PVC Plastic jacket	19.8	N.D.	N.D.	N.D.
		Red PVC Plastic jacket	17.5	N.D.	N.D.	N.D.
		Blue PVC Plastic jacket	181	N.D.	N.D.	N.D.
		Green/Yellow PVC Plastic jacket	N.D.	N.D.	15.9	N.D.
		Coppery metal wire	--	--	--	--
7.	Chip resistor	Black body w/ silvery metal	60	N.D.	N.D.	N.D.
8.	Inductor	Coppery wire	--	--	--	--
		Green magnet metal	N.D.	N.D.	N.D.	N.D.
		Black glue	N.D.	N.D.	N.D.	N.D.
9.	Capacitor	Red body	N.D.	N.D.	N.D.	N.D.
		Silvery metal	--	--	--	--

No.	TEST ITEMS		Bis-(2-ethylhexyl) Phthalate (DEHP)	Benzylbutyl Phthalate (BBP)	Dibutyl Phthalate (DBP)	Diisobutyl phthalate (DIBP)
	UNIT		ppm	ppm	ppm	ppm
	Limit		1000	1000	1000	1000
10.	Inductor	Black rubber	N.D.	N.D.	N.D.	N.D.
		Coppery metal wire	--	--	--	--
		Black solid	N.D.	N.D.	N.D.	N.D.
11.	Transformer Transformer	Yellow tape	N.D.	N.D.	N.D.	N.D.
		Transparent plastic tube	N.D.	N.D.	N.D.	N.D.
		Black plastic tube	N.D.	N.D.	N.D.	N.D.
		Black magnet solid	N.D.	N.D.	N.D.	N.D.
		Coppery metal wire	N.D.	N.D.	N.D.	N.D.
12.	Y capacitor	Blue body w/ silvery metal	N.D.	N.D.	N.D.	N.D.
13.	Aluminium electrolytic capacitors	Electrolyte w/ silvery metal	N.D.	N.D.	N.D.	N.D.
		Purple plastic sheet	N.D.	N.D.	N.D.	N.D.
		Silvery metal	--	--	--	--
		Grey plastic sheet	N.D.	N.D.	N.D.	N.D.
		Black rubber	N.D.	N.D.	N.D.	N.D.
14.	White glue	White glue	N.D.	N.D.	N.D.	N.D.
15.	PCB	White board w/ silvery metal	N.D.	N.D.	N.D.	N.D.
16.	Heat sink	Silvery metal	N.D.	N.D.	N.D.	N.D.
17.	IC	Black body	N.D.	N.D.	N.D.	N.D.
		Silvery metal	N.D.	N.D.	N.D.	N.D.
18.	Diode	Silvery metal	--	--	--	--
		Black body	N.D.	N.D.	N.D.	N.D.

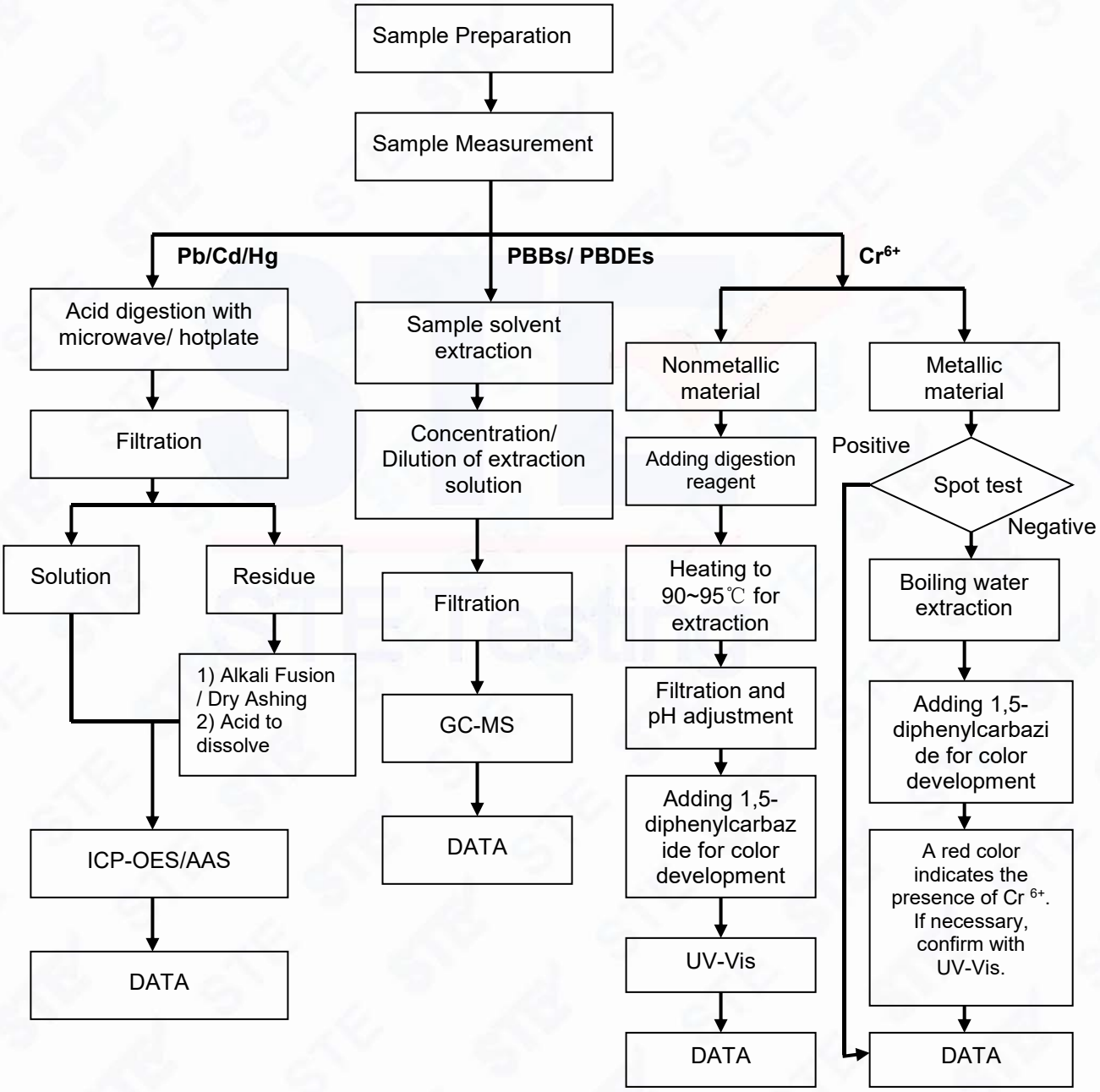
No.	TEST ITEMS		Bis-(2-ethylhexyl) Phthalate **(DEHP)**	Benzylbutyl Phthalate **(BBP)**	Dibutyl Phthalate **(DBP)**	Diisobutyl phthalate (**DIBP**)
	UNIT		ppm	ppm	ppm	ppm
	Limit		1000	1000	1000	1000
19.	Connector	Black plastic	N.D.	N.D.	N.D.	N.D.
		Red plastic	N.D.	N.D.	N.D.	N.D.
		Silvery metal	--	--	--	--
20.	Double-sided tape	Blue tape	--	--	--	--
		White foam w/ glue	N.D.	N.D.	N.D.	N.D.
21.	Label	White paper w/ black ink	N.D.	N.D.	N.D.	N.D.

Notes :
(1) The maximum permissible limit is quoted from the directive (EU) 2015/863, Annex II

Remarks :
(1) 1 mg/kg = 1 ppm = 0.0001%
(2) MDL = Method Detection Limit
(3) ND = Not Detected (< MDL)
(4) "-" = Not Regulated

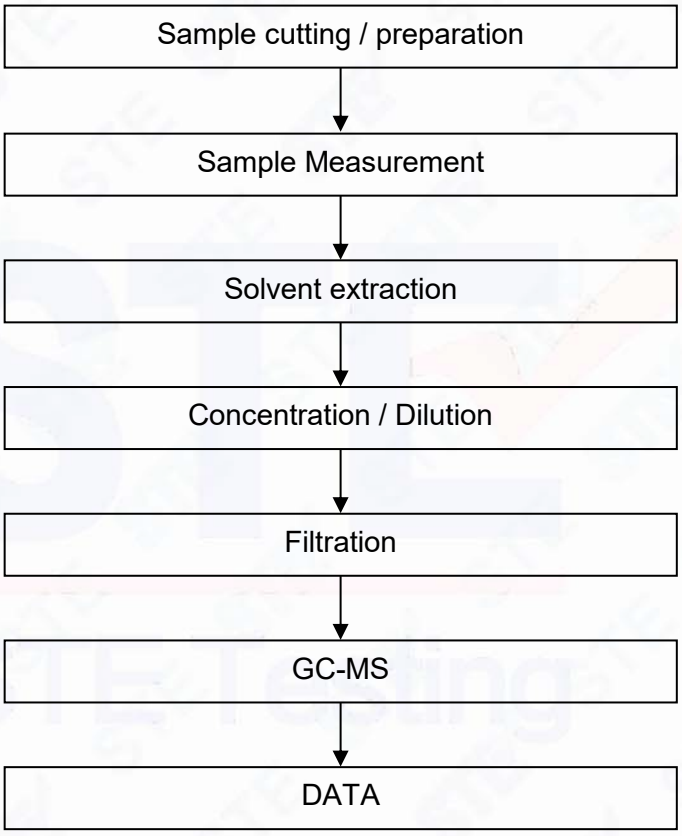
RoHS Testing Flow Chart

1) Name of the person who made testing: Hunter Liang
2) Name of the person in charge of testing: Todd Qian
3) These samples were dissolved totally by pre -conditioning method according to below flow chart (Cr6+ and PBBs/ PBDEs test method excluded).



Phthalates Testing Flow Chart

1) Name of the person who made testing: Hunter Liang
2) Name of the person in charge of testing: Todd Qian



Sample Photos:



Fig. 1

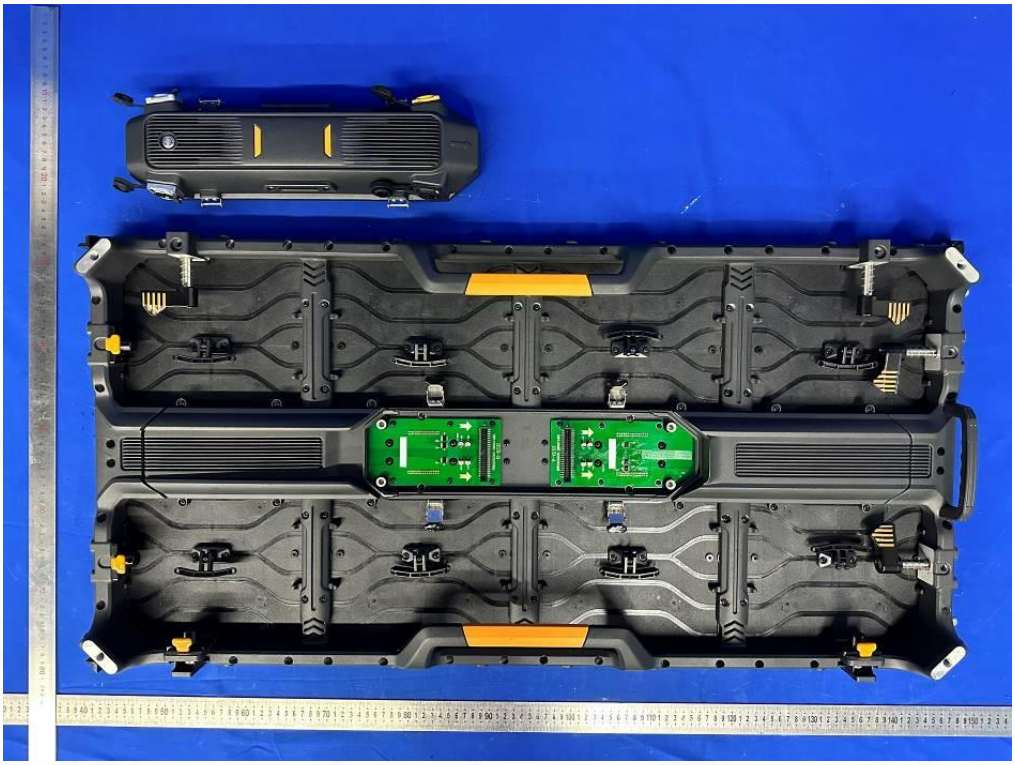


Fig. 2

Sample Photos:

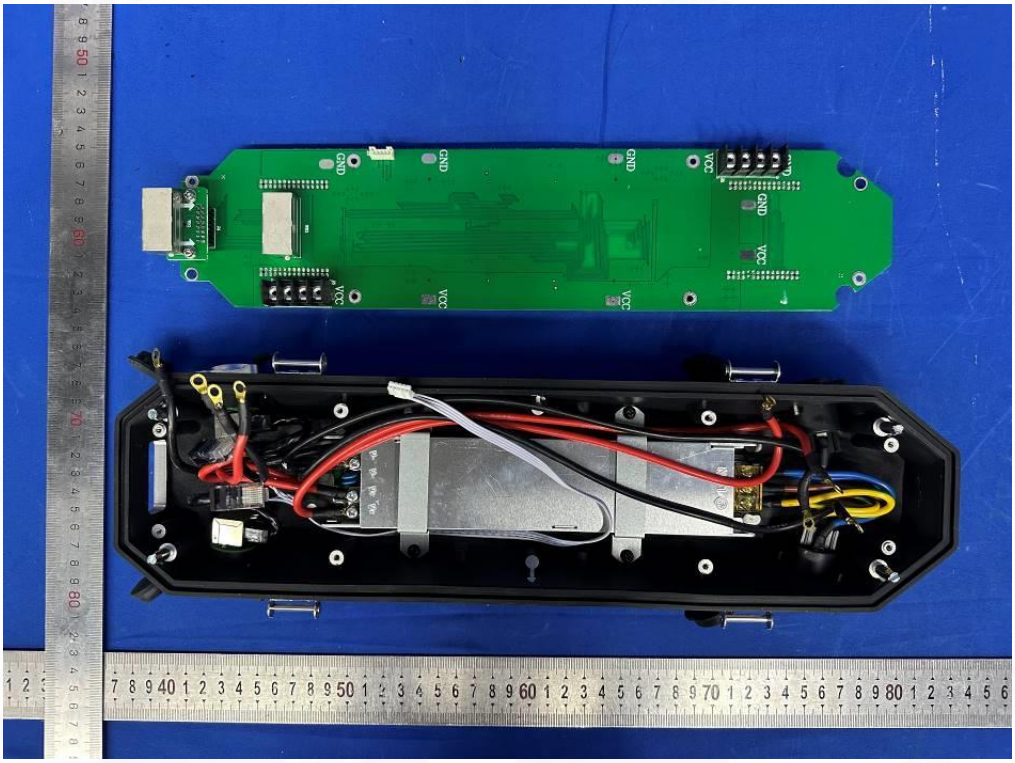


Fig. 3

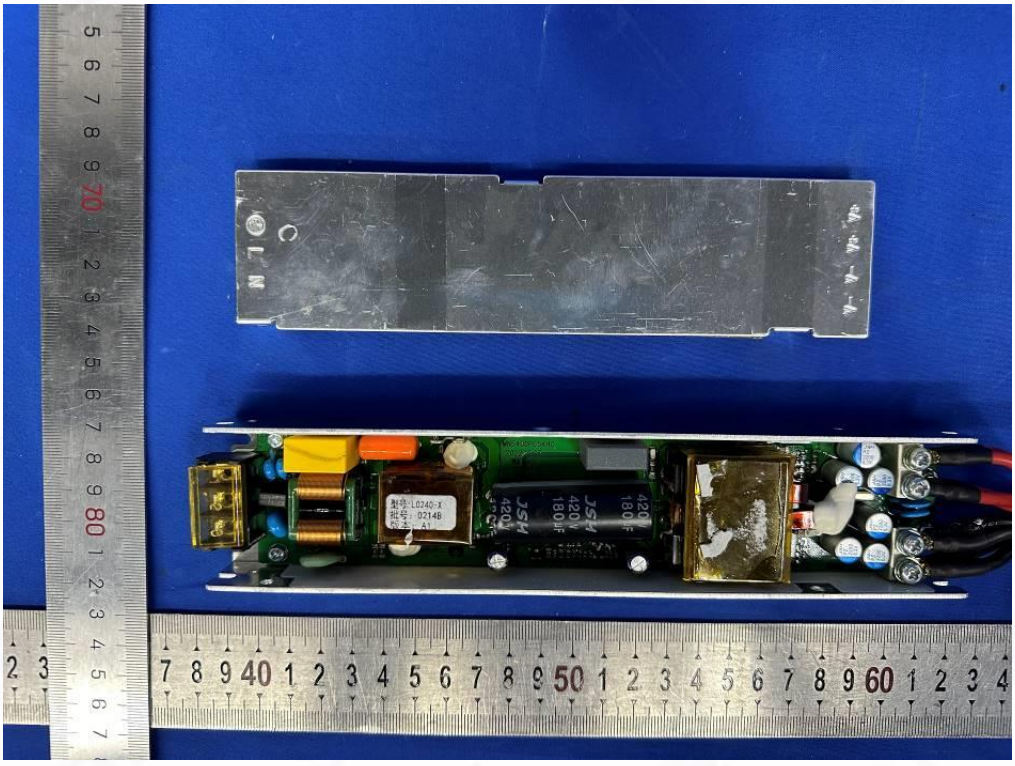


Fig. 4

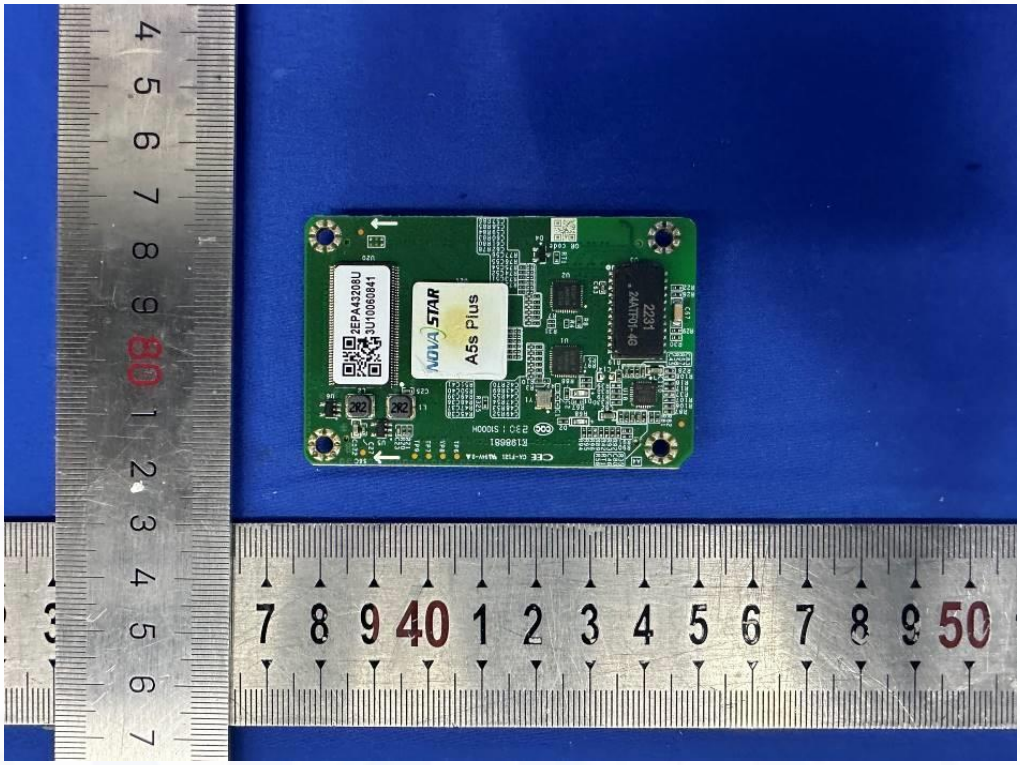


Fig. 5

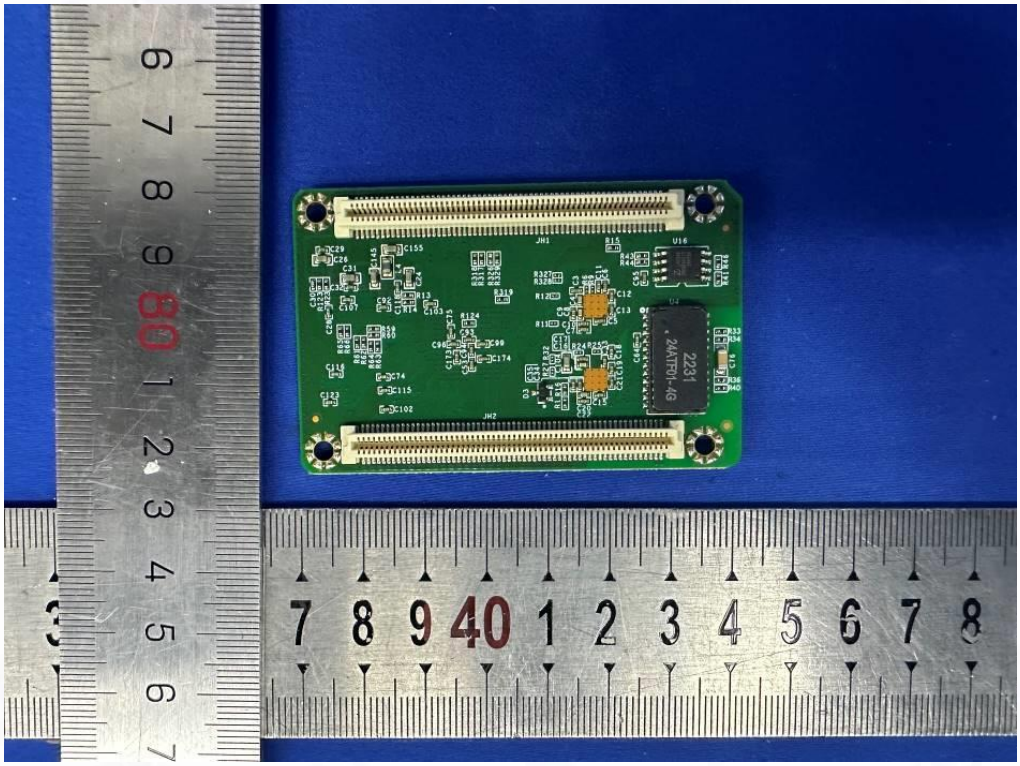


Fig. 6

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