

TEST REPORT

Report No.: LCS190708128AR

Date: 2019.08.26

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Applicant : ZHEJIANG CARSPA NEW ENERGY CO., LTD

Address : Carspa Building, Xinhejia Industrial Zone, Baishi, Yueqing, Wenzhou,
Zhejiang, China, 325604

Report on the submitted samples said to be:

Sample Name : POWER INVERTER

Trade Mark : CARSPA

Client's information : N/A

Style No. : CAR5K, CAR200, CAR300, CAR400, CAR500, CAR600, CAR700, CAR800,
CAR1K, CAR1.2K, CAR1.5K, CAR1.6K, CAR2K, CAR2.5K, CAR3K, CAR3.5K,
CAR4K, CAR4.5K, MS150, MS300, MS400, MS500, MS600, MS700, MS800,
MS1000, MS1200, MS1500, MS2000, MS2500, MSD150, MSD300, MSD400,
MSD500, MSD600, MSD700, MSD800, MSD1000, MSD1200, MSD1500,
MSD2000, MSD2500, UPS600, UPS800, UPS1000, UPS1500, UPS2000,
UPS3000, PI400, PI600, PID400, PID600

Testing Period : July 17, 2019 ~ August 26, 2019

Results : Please refer to next page(s).

TEST REQUEST	CONCLUSION
According to the customer's request, based on the performed tests on submitted sample, the result of Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs, PBDEs, Dibutyl Phthalate(DBP), Benzylbutyl Phthalate(BBP), Bis(2-ethylhexyl) Phthalate(DEHP), Diisobutyl phthalate(DIBP) content comply with the limit as set of RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.	Pass

Signed for and on behalf of LCS



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Results:

A.EU RoHS Directive 2011/65/EU and its amendment directives on XRF

Test method: With reference to IEC 62321-3-1:2013, Screening by X-ray Fluorescence Spectroscopy (XRF)

Seq. No.	Tested Part(s)	Results						Date of sample submission/resubmission
		Cd	Pb	Hg	Cr ^{VI}	Br ^{VI}		
						PBBs	PBDEs	
1	Ferrous metal sheet	BL	BL	BL	BL	/	/	2019-07-17
2	Coloured paper	BL	BL	BL	BL	BL	BL	2019-07-17
3	Ferrous metal sheet	OL	BL	BL	X	/	/	2019-07-17
4	Black plastic sheet	BL	BL	BL	BL	X	X	2019-07-17
5	Black plastic sheet	BL	BL	BL	BL	X	X	2019-07-17
6	Silver plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17
7	Black plastic sheet	BL	BL	BL	BL	X	X	2019-07-17
8	Silver metal sheet	BL	BL	BL	BL	/	/	2019-07-17
9	Black soft magnet	BL	BL	BL	BL	/	/	2019-07-17
10	White plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17
11	Silver metal spring	BL	BL	BL	X	/	/	2019-07-17
12	Ferrous metal sheet	BL	BL	BL	X	/	/	2019-07-17
13	Silver metal needle	BL	BL	BL	X	/	/	2019-07-17
14	Silver metal sheet	BL	BL	BL	X	/	/	2019-07-17
15	Silver metal sheet	BL	BL	BL	X	/	/	2019-07-17
16	Silver steel beads	BL	BL	BL	X	/	/	2019-07-17
17	Brown plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17
18	Silver metal sheet	BL	BL	BL	X	/	/	2019-07-17
19	Silver metal sheet	BL	BL	BL	X	/	/	2019-07-17
20	Black plastic sheet	BL	BL	BL	BL	X	X	2019-07-17
21	Red metal wire	BL	BL	BL	BL	/	/	2019-07-17
22	Gold wire	BL	BL	BL	BL	/	/	2019-07-17
23	Black IC	BL	BL	BL	BL	BL	BL	2019-07-17
24	Black Diode	BL	BL	BL	BL	X	X	2019-07-17
25	Black plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17

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Seq. No.	Tested Part(s)	Results						Date of sample submission/resubmission
		Cd	Pb	Hg	Cr ^{VI}	Br ^{VI}		
						PBBs	PBDEs	
26	Silver metal sheet	BL	BL	BL	BL	/	/	2019-07-17
27	Silver metal sheet	BL	BL	BL	BL	/	/	2019-07-17
28	Grey metal sheet	BL	BL	BL	BL	/	/	2019-07-17
29	Brown paper	BL	BL	BL	BL	BL	BL	2019-07-17
30	Black plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17
31	Silver metal sheet	BL	BL	BL	BL	/	/	2019-07-17
32	Silver metal needle	BL	BL	BL	BL	/	/	2019-07-17
33	Tin solder	BL	BL	BL	BL	/	/	2019-07-17
34	PCB board	BL	BL	BL	BL	X	X	2019-07-17
35	White plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17
36	Silver metal sheet	BL	BL	BL	BL	/	/	2019-07-17
37	White plastic pipe	BL	BL	BL	BL	BL	BL	2019-07-17
38	Red plastic thread	BL	BL	BL	BL	BL	BL	2019-07-17
39	Black plastic thread	BL	BL	BL	BL	BL	BL	2019-07-17
40	Silver wire	BL	BL	BL	BL	/	/	2019-07-17
41	Red plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17
42	Black plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17
43	Black plastic ring	BL	BL	BL	BL	BL	BL	2019-07-17
44	Golden metal sheet	BL	BL	BL	BL	/	/	2019-07-17
45	Gold metal screw	BL	OL	BL	BL	/	/	2019-07-17
46	Silver metal cushion	BL	BL	BL	BL	/	/	2019-07-17
47	Silver metal cushion	BL	BL	BL	BL	/	/	2019-07-17
48	Silver metal nut	BL	BL	BL	BL	/	/	2019-07-17
49	Silver metal nut	BL	BL	BL	BL	/	/	2019-07-17
50	Silver metal sheet	BL	BL	BL	BL	/	/	2019-07-17

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Seq. No.	Tested Part(s)	Results						Date of sample submission/resubmission
		Cd	Pb	Hg	Cr ^{VI}	Br ^{VI}		
						PBBs	PBDEs	
51	Red plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17/ 2019-08-13
52	Black plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17/ 2019-08-13
53	Red plastic thread	BL	BL	BL	BL	BL	BL	2019-07-17/ 2019-08-13
54	Black plastic thread	BL	BL	BL	BL	BL	BL	2019-07-17/ 2019-08-13
55	Gold wire	BL	BL	BL	BL	/	/	2019-07-17/
56	Black plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17/ 2019-08-13
57	Black plastic thread	BL	BL	BL	BL	BL	BL	2019-07-17/ 2019-08-13
58	Silver metal sheet	BL	BL	BL	BL	/	/	2019-07-17
59	Gold wire	BL	BL	BL	BL	/	/	2019-07-17
60	Silver metal sheet	BL	BL	BL	BL	/	/	2019-07-17
61	White plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17
62	Blue and White Plastic Wire	BL	BL	BL	BL	BL	BL	2019-07-17/ 2019-08-13
63	Black plastic sheet	BL	BL	BL	BL	X	X	2019-07-17
64	Black plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17
65	Silver metal sheet	BL	BL	BL	BL	/	/	2019-07-17
66	Golden metal sheet	BL	OL	BL	BL	/	/	2019-07-17
67	Silver metal screw	BL	BL	BL	BL	/	/	2019-07-17
68	Silver metal nut	BL	BL	BL	BL	/	/	2019-07-17
69	Black plastic sheet	BL	BL	BL	BL	X	X	2019-07-17
70	Red plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17
71	Golden metal sheet	BL	BL	BL	BL	/	/	2019-07-17
72	Ferrous metal spring	BL	BL	BL	BL	/	/	2019-07-17
73	Silver metal sheet	BL	BL	BL	BL	/	/	2019-07-17
74	Silver metal sheet	BL	BL	BL	BL	/	/	2019-07-17
75	White plastic sheet	BL	BL	BL	BL	X	X	2019-07-17

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Seq. No.	Tested Part(s)	Results						Date of sample submission/resubmission
		Cd	Pb	Hg	Cr ^{VI}	Br ⁺		
						PBBs	PBDEs	
76	Black plastic sheet	BL	BL	BL	BL	X	X	2019-07-17
77	Silver metal sheet	BL	BL	BL	BL	/	/	2019-07-17
78	White plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17
79	Silver metal needle	BL	BL	BL	BL	/	/	2019-07-17
80	Black plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17/ 2019-08-13
81	Red LED	BL	BL	BL	BL	X	X	2019-07-17/ 2019-08-13
82	Green LED	BL	BL	BL	BL	X	X	2019-07-17/ 2019-08-13
83	Silver metal needle	BL	BL	BL	BL	/	/	2019-07-17
84	White plastic pipes	BL	BL	BL	BL	X	X	2019-07-17/ 2019-08-13
85	Tin solder	BL	BL	BL	BL	/	/	2019-07-17/ 2019-08-13
86	PCB board	BL	BL	BL	BL	X	X	2019-07-17/ 2019-08-13
87	Silver metal sheet	BL	BL	BL	BL	/	/	2019-07-17
88	Blue paper	BL	BL	BL	BL	BL	BL	2019-07-17
89	White plastic paper	BL	BL	BL	BL	X	X	2019-07-17
90	Yellow plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17
91	Black Ceramic Slices	BL	BL	BL	BL	BL	BL	2019-07-17/ 2019-08-13
92	Black plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17
93	Dark yellow plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17
94	Golden metal sheet	BL	BL	BL	BL	/	/	2019-07-17
95	Gold wire	BL	BL	BL	BL	/	/	2019-07-17
96	Transparent plastic pipe	BL	BL	BL	BL	BL	BL	2019-07-17
97	Black plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17
98	Silver metal sheet	BL	BL	BL	BL	/	/	2019-07-17
99	Silver metal sheet	BL	BL	BL	BL	/	/	2019-07-17
100	Grey metal sheet	BL	BL	BL	BL	/	/	2019-07-17

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Seq. No.	Tested Part(s)	Results						Date of sample submission/resubmission
		Cd	Pb	Hg	Cr ^Ⅵ	Br ^Ⅱ		
						PBBs	PBDEs	
101	Brown paper	BL	BL	BL	BL	BL	BL	2019-07-17
102	Black plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17
103	Silver metal sheet	BL	BL	BL	BL	/	/	2019-07-17
104	Silver metal needle	BL	BL	BL	BL	/	/	2019-07-17
105	Gray plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17
106	Black IC	BL	BL	BL	BL	BL	BL	2019-07-17
107	Grey gel	BL	BL	BL	BL	BL	BL	2019-07-17
108	Blue plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17
109	Brown plastic sheet	BL	BL	BL	BL	X	X	2019-07-17
110	Golden metal needle	BL	OL	BL	BL	/	/	2019-07-17
111	Red plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17
112	Black Ceramic Slices	BL	BL	BL	BL	BL	BL	2019-07-17
113	Gold wire	BL	BL	BL	BL	/	/	2019-07-17
114	White Ceramic Slices	BL	BL	BL	BL	BL	BL	2019-07-17
115	Silver metal needle	BL	BL	BL	BL	/	/	2019-07-17
116	Silver metal sheet	BL	BL	BL	BL	/	/	2019-07-17
117	Green plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17
118	Silver metal sheet	BL	BL	BL	BL	/	/	2019-07-17
119	Silver metal sheet	BL	BL	BL	BL	/	/	2019-07-17
120	Black plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17
121	Black magnet	BL	BL	BL	BL	/	/	2019-07-17
122	Silver metal sheet	BL	BL	BL	BL	/	/	2019-07-17
123	Gold wire	BL	BL	BL	BL	/	/	2019-07-17
124	Blue metal wire	BL	BL	BL	BL	/	/	2019-07-17
125	Silver metal sheet	BL	BL	BL	BL	/	/	2019-07-17

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Seq. No.	Tested Part(s)	Results						Date of sample submission/resubmission
		Cd	Pb	Hg	Cr ^{VI}	Br ^{VI}		
						PBBs	PBDEs	
126	Black Diode	BL	BL	BL	BL	X	X	2019-07-17
127	Blue Ring Resistor	BL	BL	BL	BL	BL	BL	2019-07-17
128	Yellow color ring resistance	BL	BL	BL	BL	BL	BL	2019-07-17
129	Light green ceramic capacitor	BL	BL	BL	BL	BL	BL	2019-07-17
130	White plastic bandage	BL	BL	BL	BL	BL	BL	2019-07-17
131	White plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17
132	Tin solder	BL	BL	BL	BL	/	/	2019-07-17
133	White plastic thread	BL	BL	BL	BL	BL	BL	2019-07-17
134	PCB board	BL	BL	BL	BL	X	X	2019-07-17
135	Brown patch capacitor	BL	BL	BL	BL	BL	BL	2019-07-17
136	Chip resistor	BL	BL	BL	X	BL	BL	2019-07-17
137	Red Glass Diode	BL	OL	BL	BL	BL	BL	2019-07-17
138	Patch diode	BL	BL	BL	BL	X	X	2019-07-17
139	Red Ceramic Capacitance	BL	BL	BL	BL	BL	BL	2019-07-17
140	PCB board	BL	BL	BL	BL	X	X	2019-07-17
141	Patch triode	BL	BL	BL	BL	BL	BL	2019-07-17
142	Black IC	BL	BL	BL	BL	BL	BL	2019-07-17
143	PCB board	BL	BL	BL	BL	X	X	2019-07-17
144	Gold wire	BL	BL	BL	BL	/	/	2019-07-17
145	Silver metal sheet	BL	BL	BL	BL	/	/	2019-07-17
146	Ferrous metal screw	BL	BL	BL	BL	/	/	2019-07-17
147	Ferrous metal screw	BL	BL	BL	BL	/	/	2019-07-17
148	Ferrous metal screw	BL	BL	BL	BL	/	/	2019-07-17
149	Silver metal screw	BL	BL	BL	BL	/	/	2019-07-17
150	Silver metal screw	BL	BL	BL	BL	/	/	2019-07-17

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Seq. No.	Tested Part(s)	Results						Date of sample submission/resubmission
		Cd	Pb	Hg	Cr ^{VI}	Br ^{VI}		
						PBBs	PBDEs	
151	Silver metal sheet	BL	BL	BL	BL	/	/	2019-07-17
152	Silver metal sheet	BL	BL	BL	BL	/	/	2019-07-17
153	Silver metal nut	BL	BL	BL	BL	/	/	2019-07-17
154	Red plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17/ 2019-08-13
155	Black plastic sheet	BL	BL	BL	BL	BL	BL	2019-07-17
156	Red plastic thread	BL	BL	BL	BL	BL	BL	2019-07-17/ 2019-08-13
157	Black plastic thread	BL	BL	BL	BL	BL	BL	2019-07-17

Note:

- (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.

Element	Unit	Non-metal	Metal	Composite Material
Cd	mg/kg	BL≤70-3σ<X <130+3σ≤OL	BL≤70-3σ<X <130+3σ≤OL	BL≤50-3σ<X <150+3σ≤OL
Pb	mg/kg	BL≤700-3σ<X <1300+3σ≤OL	BL≤700-3σ<X <1300+3σ≤OL	BL≤500-3σ<X <1500+3σ≤OL
Hg	mg/kg	BL≤700-3σ<X <1300+3σ≤OL	BL≤700-3σ<X <1300+3σ≤OL	BL≤500-3σ<X <1500+3σ≤OL
Cr	mg/kg	BL≤700-3σ<X	BL≤700-3σ<X	BL≤500-3σ<X
Br	mg/kg	BL≤300-3σ<X	--	BL≤250-3σ<X

Note:

BL = Below Limit
OL = Over Limit
X = Inconclusive

- (2) The XRF screening test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.
- (3) The maximum permissible limit is quoted from the document 2015/863/EC amending RoHS directive 2011/65/EU:
- (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

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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
Benzylbutyl Phthalate(BBP)	1000
Bis(2-ethylhexyl) Phthalate(DEHP)	1000
Diisobutyl phthalate(DIBP)	1000

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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B. EU RoHS Directive 2011/65/EU and its amendment Directives 2015/863/EU on Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs, PBDEs, DBP, BBP, DEHP, DIBP content.

Test method:

Lead(Pb) & Cadmium(Cd) Content:

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

Mercury(Hg) Content:

With reference to IEC 62321-4:2013+AMD1:2017 CSV, by acid digestion and analysis was performed by inductively coupled plasma atomic emission spectrometer (ICP-OES)

Hexavalent Chromium(Cr^{6+}) Content:

With reference to IEC 62321-7-1:2015 or IEC 62321-7-2:2017, by alkaline digestion and analysis was performed by UV-visible spectrophotometer (UV-Vis)

PBBs & PBDEs Content:

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

BBP DBP DEHP & DIBP Content:

With reference to IEC 62321-8:2017, by solvent extraction and analysis was performed by gas chromatographic-mass spectrometer (GC-MS)

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

Item	Unit	MDL	Results		Limit
			(45)	(66)	
Lead Content (Pb)	mg/kg	2	31246 ^{#3}	980 ^{#3}	1000

Item	Unit	MDL	Results		Limit
			(110)	(137)	
Lead Content (Pb)	mg/kg	2	27379 ^{#3}	179320 ^{#1}	1000

Item	Unit	MDL	Results	Limit
			(3)	
Cadmium Content (Cd)	mg/kg	2	N.D.	100

2) The test results of Hexavalent Chromium (Cr^{6+})(for nonmetal)

Item	Unit	MDL	Results	Limit
			(136)	
Hexavalent Chromium (Cr ⁶⁺)	mg/kg	8	N.D.	1000

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3) The test results of Hexavalent Chromium (Cr⁶⁺)(metal)

Item	Unit	MDL	Results					Limit
			(3)	(11)	(12)	(13)	(14)	
Hexavalent Chromium (Cr ⁶⁺)	ug/cm ²	0.10	N.D.	N.D.	N.D.	N.D.	N.D.	1000

Item	Unit	MDL	Results				Limit
			(15)	(16)	(18)	(19)	
Hexavalent Chromium (Cr ⁶⁺)	ug/cm ²	0.10	N.D.	N.D.	N.D.	N.D.	1000

Note:

- MDL = Method Detection Limit
- /= Not apply
- LOQ = Limit of Quantification, The LOQ of Hexavalent chromium is 0.10 µg/cm²
- mg/kg = ppm=parts per million
- N.D.=Not Detected(<MDL or LOQ)
- *The sample is negative for Cr(VI)-The Cr(VI) concentration is below 0.10ug/cm²
The coating is considered a non-Cr(VI) based coating.

- #1 According to RoHS directive 2011/65/EU and its amendments, Lead is exempted in glass of cathode ray tubes, electronic components and fluorescent tubes.
- #2 According to RoHS directive 2011/65/EU and its amendments, Lead is exempted in electronic ceramic parts (e.g. piezoelectronic devices).
- #3 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.
- #4 According to RoHS directive 2011/65/EU and its amendments, Lead is exempted in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead).
- #5 According to the statement provided by the customer, according to RoHS directive 2011/65/EU and its amendments, Lead is exempted as an alloying element in Aluminum containing up to 0.4% (4000ppm) by weight.
- #6 According to the statement provided by the customer, according to RoHS directive 2011/65/EU and its amendments, Cadmium and its compounds in electrical contact is exempted.
- #7 According to the statement provided by the customer, according to RoHS directive 2011/65/EU and its Amendments, Lead is exempted in steel for machining purposes and in galvanised steel containing up to 0.35% (3500ppm) by weight.
- Flow chart appendix is included.
- Photo appendix is included.

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4) The test results of DBP、BBP、DEHP & DIBP

Item	Unit	MDL	Results	Limit
			4+5+7+17+20+23	
Dibutyl Phthalate(DBP)	mg/kg	50	125	1000
Benzylbutyl Phthalate(BBP)	mg/kg	50	N.D.	1000
Bis(2-ethylhexyl) Phthalate(DEHP)	mg/kg	50	N.D.	1000
Diisobutyl phthalate(DIBP)	mg/kg	50	N.D.	1000

Item	Unit	MDL	Results	Limit
			24+30+35+41+42+61	
Dibutyl Phthalate(DBP)	mg/kg	50	N.D.	1000
Benzylbutyl Phthalate(BBP)	mg/kg	50	N.D.	1000
Bis(2-ethylhexyl) Phthalate(DEHP)	mg/kg	50	280	1000
Diisobutyl phthalate(DIBP)	mg/kg	50	N.D.	1000

Item	Unit	MDL	Results	Limit
			63+64+69+75+76+78	
Dibutyl Phthalate(DBP)	mg/kg	50	N.D.	1000
Benzylbutyl Phthalate(BBP)	mg/kg	50	N.D.	1000
Bis(2-ethylhexyl) Phthalate(DEHP)	mg/kg	50	204	1000
Diisobutyl phthalate(DIBP)	mg/kg	50	N.D.	1000

Item	Unit	MDL	Results	Limit
			92+106+112+114+117+120	
Dibutyl Phthalate(DBP)	mg/kg	50	N.D.	1000
Benzylbutyl Phthalate(BBP)	mg/kg	50	N.D.	1000
Bis(2-ethylhexyl) Phthalate(DEHP)	mg/kg	50	79	1000
Diisobutyl phthalate(DIBP)	mg/kg	50	N.D.	1000

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Item	Unit	MDL	Results	Limit
			126+127+128+129+130+134	
Dibutyl Phthalate(DBP)	mg/kg	50	N.D.	1000
Benzylbutyl Phthalate(BBP)	mg/kg	50	N.D.	1000
Bis(2-ethylhexyl) Phthalate(DEHP)	mg/kg	50	80	1000
Diisobutyl phthalate(DIBP)	mg/kg	50	N.D.	1000

Item	Unit	MDL	Results	Limit
			135+136+137+139+140+141	
Dibutyl Phthalate(DBP)	mg/kg	50	N.D.	1000
Benzylbutyl Phthalate(BBP)	mg/kg	50	N.D.	1000
Bis(2-ethylhexyl) Phthalate(DEHP)	mg/kg	50	265	1000
Diisobutyl phthalate(DIBP)	mg/kg	50	N.D.	1000

Item	Unit	MDL	Results		Limit
			142+143+157	34+89+109+138	
Dibutyl Phthalate(DBP)	mg/kg	50	N.D.	N.D.	1000
Benzylbutyl Phthalate(BBP)	mg/kg	50	N.D.	N.D.	1000
Bis(2-ethylhexyl) Phthalate(DEHP)	mg/kg	50	N.D.	N.D.	1000
Diisobutyl phthalate(DIBP)	mg/kg	50	N.D.	N.D.	1000

Item	Unit	MDL	Results			Limit
			2	6	10	
Dibutyl Phthalate(DBP)	mg/kg	50	N.D.	N.D.	N.D.	1000
Benzylbutyl Phthalate(BBP)	mg/kg	50	N.D.	N.D.	N.D.	1000
Bis(2-ethylhexyl) Phthalate(DEHP)	mg/kg	50	N.D.	56	N.D.	1000
Diisobutyl phthalate(DIBP)	mg/kg	50	N.D.	N.D.	N.D.	1000

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Item	Unit	MDL	Results				Limit
			25	29	37	38	
Dibutyl Phthalate(DBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	1000
Benzylbutyl Phthalate(BBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	1000
Bis(2-ethylhexyl) Phthalate(DEHP)	mg/kg	50	862	N.D.	N.D.	N.D.	1000
Diisobutyl phthalate(DIBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	1000

Item	Unit	MDL	Results				Limit
			39	43	51	52	
Dibutyl Phthalate(DBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	1000
Benzylbutyl Phthalate(BBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	1000
Bis(2-ethylhexyl) Phthalate(DEHP)	mg/kg	50	78	N.D.	N.D.	N.D.	1000
Diisobutyl phthalate(DIBP)	mg/kg	50	N.D.	N.D.	N.D.	54	1000

Item	Unit	MDL	Results				Limit
			53	54	56	57	
Dibutyl Phthalate(DBP)	mg/kg	50	879	N.D.	N.D.	371	1000
Benzylbutyl Phthalate(BBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	1000
Bis(2-ethylhexyl) Phthalate(DEHP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	1000
Diisobutyl phthalate(DIBP)	mg/kg	50	644	840	N.D.	783	1000

Item	Unit	MDL	Results			Limit
			62	70	88	
Dibutyl Phthalate(DBP)	mg/kg	50	N.D.	N.D.	N.D.	1000
Benzylbutyl Phthalate(BBP)	mg/kg	50	N.D.	N.D.	N.D.	1000
Bis(2-ethylhexyl) Phthalate(DEHP)	mg/kg	50	N.D.	N.D.	N.D.	1000
Diisobutyl phthalate(DIBP)	mg/kg	50	212	N.D.	N.D.	1000

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Item	Unit	MDL	Results				Limit
			90	93	96	97	
Dibutyl Phthalate(DBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	1000
Benzylbutyl Phthalate(BBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	1000
Bis(2-ethylhexyl) Phthalate(DEHP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	1000
Diisobutyl phthalate(DIBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	1000

Item	Unit	MDL	Results				Limit
			101	102	105	107	
Dibutyl Phthalate(DBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	1000
Benzylbutyl Phthalate(BBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	1000
Bis(2-ethylhexyl) Phthalate(DEHP)	mg/kg	50	N.D.	N.D.	86	62	1000
Diisobutyl phthalate(DIBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	1000

Item	Unit	MDL	Results				Limit
			108	111	131	133	
Dibutyl Phthalate(DBP)	mg/kg	50	N.D.	80	N.D.	178	1000
Benzylbutyl Phthalate(BBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	1000
Bis(2-ethylhexyl) Phthalate(DEHP)	mg/kg	50	58	67	N.D.	97	1000
Diisobutyl phthalate(DIBP)	mg/kg	50	N.D.	N.D.	N.D.	323	1000

Item	Unit	MDL	Results			Limit
			154	155	156	
Dibutyl Phthalate(DBP)	mg/kg	50	N.D.	N.D.	846	1000
Benzylbutyl Phthalate(BBP)	mg/kg	50	N.D.	N.D.	N.D.	1000
Bis(2-ethylhexyl) Phthalate(DEHP)	mg/kg	50	N.D.	806	N.D.	1000
Diisobutyl phthalate(DIBP)	mg/kg	50	N.D.	68	723	1000

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Item	Unit	MDL	Results				Limit
			80	81	82	84	
Dibutyl Phthalate(DBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	1000
Benzylbutyl Phthalate(BBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	1000
Bis(2-ethylhexyl) Phthalate(DEHP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	1000
Diisobutyl phthalate(DIBP)	mg/kg	50	N.D.	N.D.	N.D.	N.D.	1000

Item	Unit	MDL	Results		Limit
			86	91	
Dibutyl Phthalate(DBP)	mg/kg	50	N.D.	N.D.	1000
Benzylbutyl Phthalate(BBP)	mg/kg	50	N.D.	N.D.	1000
Bis(2-ethylhexyl) Phthalate(DEHP)	mg/kg	50	N.D.	N.D.	1000
Diisobutyl phthalate(DIBP)	mg/kg	50	N.D.	N.D.	1000

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5) The test results of PBBs & PBDEs

Item	Unit	MDL	Results			Limit
			4+5	7+20	24+34	
Polybrominated Biphenyls (PBBs)						
Monobromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Dibromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Tribromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Tetrabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Pentabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Hexabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Heptabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Octabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Nonabromodiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Decabromodiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Total content	mg/kg	/	N.D.	N.D.	N.D.	1000
Polybrominated Diphenylethers (PBDEs)(Mon-Deca)						
Monobromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Dibromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Tribromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Tetrabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Pentabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Hexabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Heptabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Octabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Nonabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Decabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Total content	mg/kg	/	N.D.	N.D.	N.D.	1000

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Item	Unit	MDL	Results			Limit
			63+69	75+76	81+82	
Polybrominated Biphenyls (PBBs)						
Monobromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Dibromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Tribromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Tetrabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Pentabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Hexabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Heptabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Octabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Nonabromodiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Decabromodiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Total content	mg/kg	/	N.D.	N.D.	N.D.	1000
Polybrominated Diphenylethers (PBDEs)(Mon-Deca)						
Monobromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Dibromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Tribromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Tetrabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Pentabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Hexabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Heptabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Octabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Nonabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Decabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Total content	mg/kg	/	N.D.	N.D.	N.D.	1000

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Item	Unit	MDL	Results			Limit
			84+86	89+109	126+134	
Polybrominated Biphenyls (PBBs)						
Monobromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Dibromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Tribromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Tetrabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Pentabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Hexabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Heptabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Octabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Nonabromodiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Decabromodiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Total content	mg/kg	/	N.D.	N.D.	N.D.	1000
Polybrominated Diphenylethers (PBDEs)(Mon-Deca)						
Monobromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Dibromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Tribromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Tetrabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Pentabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Hexabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Heptabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Octabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Nonabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Decabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Total content	mg/kg	/	N.D.	N.D.	N.D.	1000

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Item	Unit	MDL	Results		Limit
			138+140	143	
Polybrominated Biphenyls (PBBs)					
Monobromobiphenyl	mg/kg	5	N.D.	N.D.	
Dibromobiphenyl	mg/kg	5	N.D.	N.D.	
Tribromobiphenyl	mg/kg	5	N.D.	N.D.	
Tetrabromobiphenyl	mg/kg	5	N.D.	N.D.	
Pentabromobiphenyl	mg/kg	5	N.D.	N.D.	
Hexabromobiphenyl	mg/kg	5	N.D.	N.D.	
Heptabromobiphenyl	mg/kg	5	N.D.	N.D.	
Octabromobiphenyl	mg/kg	5	N.D.	N.D.	
Nonabromodiphenyl	mg/kg	5	N.D.	N.D.	
Decabromodiphenyl	mg/kg	5	N.D.	N.D.	
Total content	mg/kg	/	N.D.	N.D.	1000
Polybrominated Diphenylethers (PBDEs)(Mon-Deca)					
Monobromodiphenyl ether	mg/kg	5	N.D.	N.D.	
Dibromodiphenyl ether	mg/kg	5	N.D.	N.D.	
Tribromodiphenyl ether	mg/kg	5	N.D.	N.D.	
Tetrabromodiphenyl ether	mg/kg	5	N.D.	N.D.	
Pentabromodiphenyl ether	mg/kg	5	N.D.	N.D.	
Hexabromodiphenyl ether	mg/kg	5	N.D.	N.D.	
Heptabromodiphenyl ether	mg/kg	5	N.D.	N.D.	
Octabromodiphenyl ether	mg/kg	5	N.D.	N.D.	
Nonabromodiphenyl ether	mg/kg	5	N.D.	N.D.	
Decabromodiphenyl ether	mg/kg	5	N.D.	N.D.	
Total content	mg/kg	/	N.D.	N.D.	1000

Remark:

- mg/kg = ppm
- N.D. = Not detected
- MDL=Method detected limited
- Flow chart appendix is included
- Photo appendix is included.

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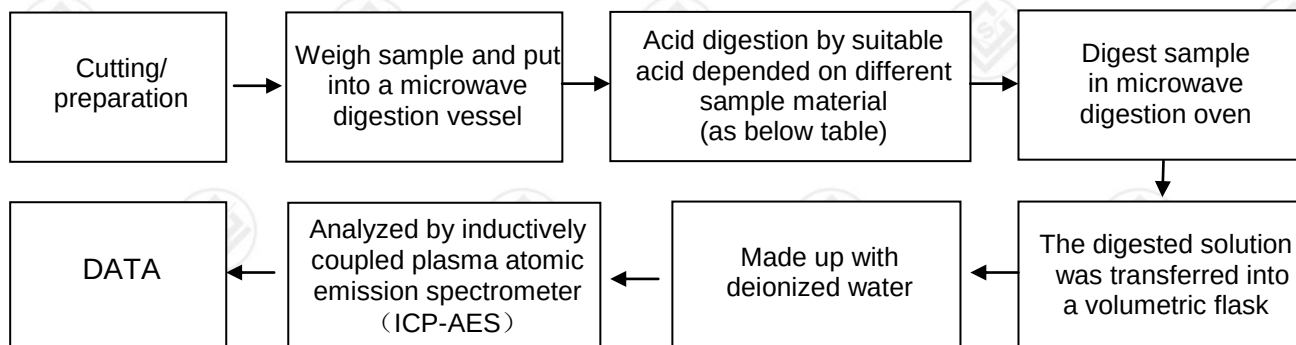
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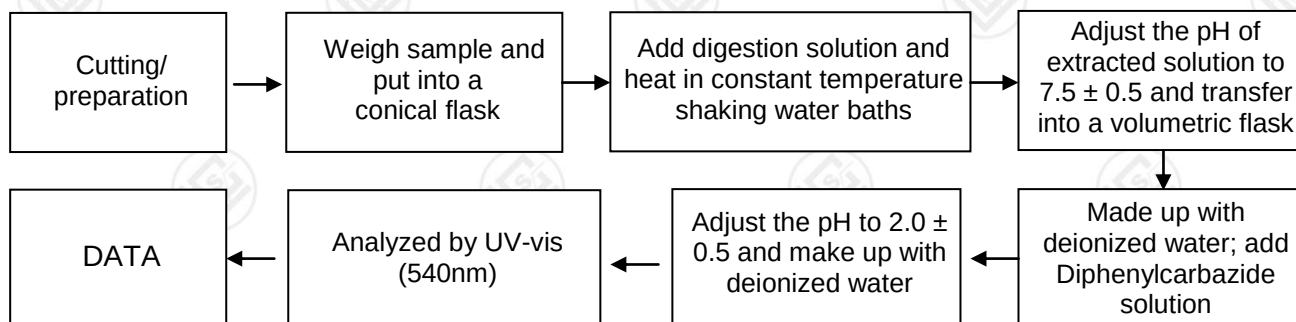
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Appendix

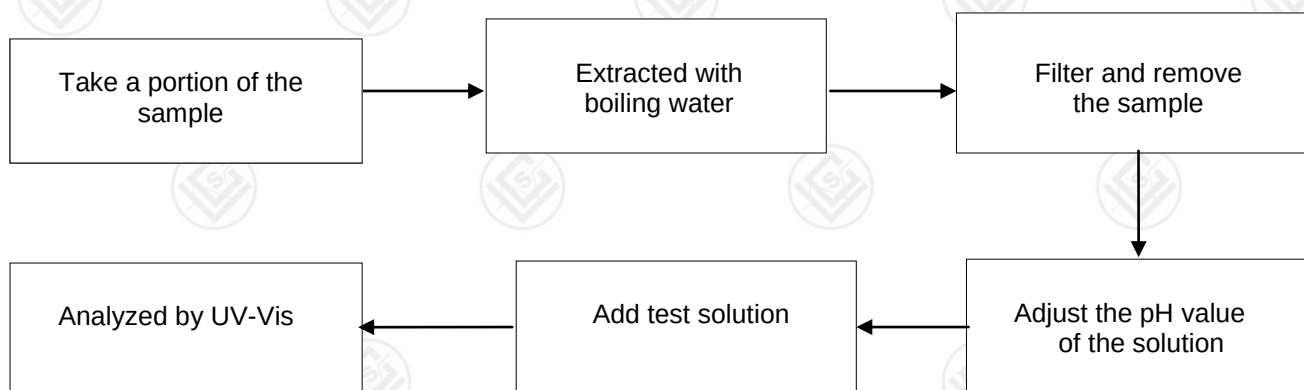
1. Test Flow chart for Cd/Pb /Hg content



2. Test Flowchart for Cr⁶⁺ content (For non-metal material)



Test Flowchart for Cr⁶⁺ content (For metal material)





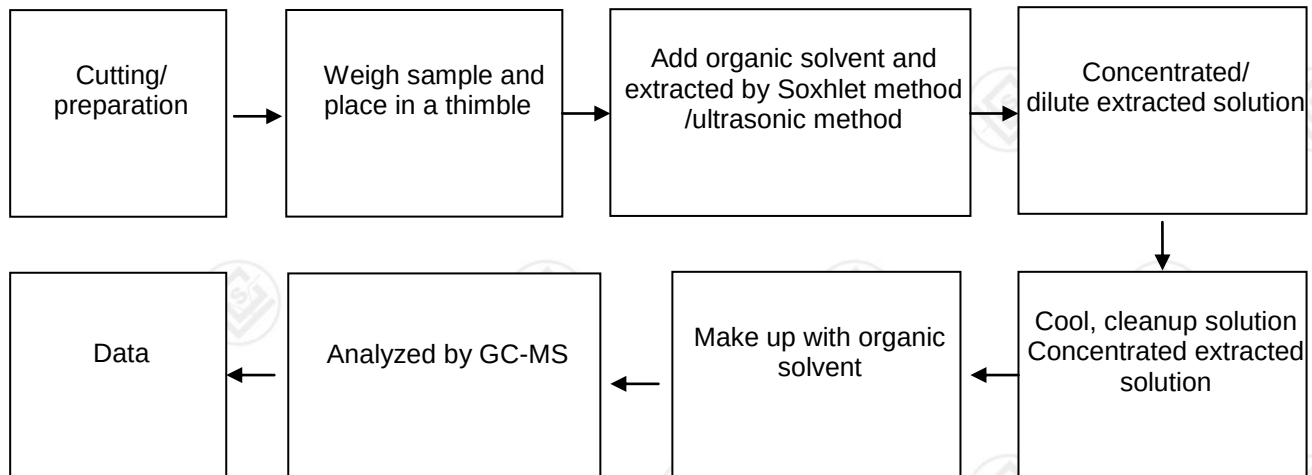
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3. Test Flow chart for PBBs & PBDEs & DBP & BBP & DEHP & DIBP content



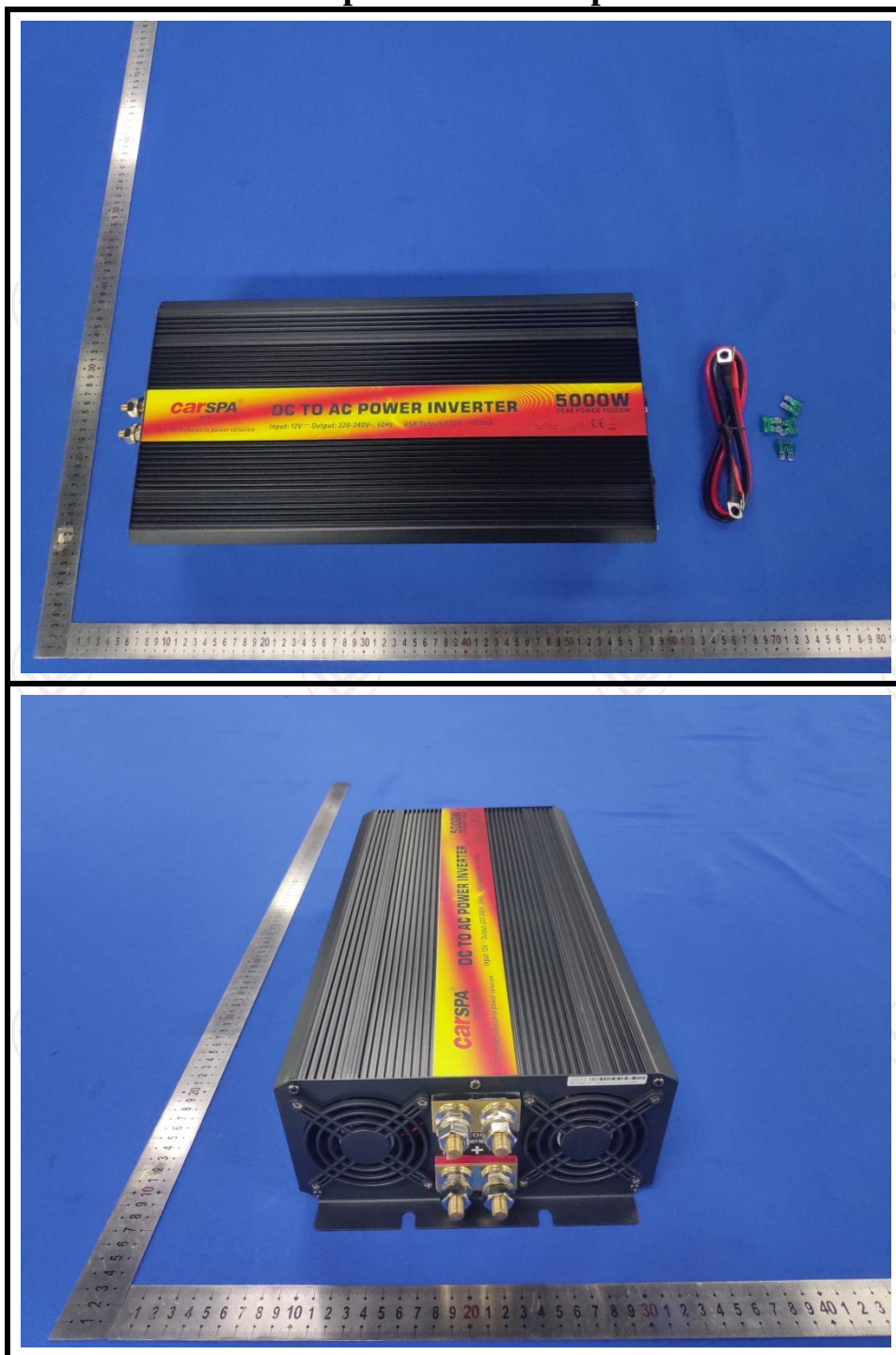
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The photo of the sample

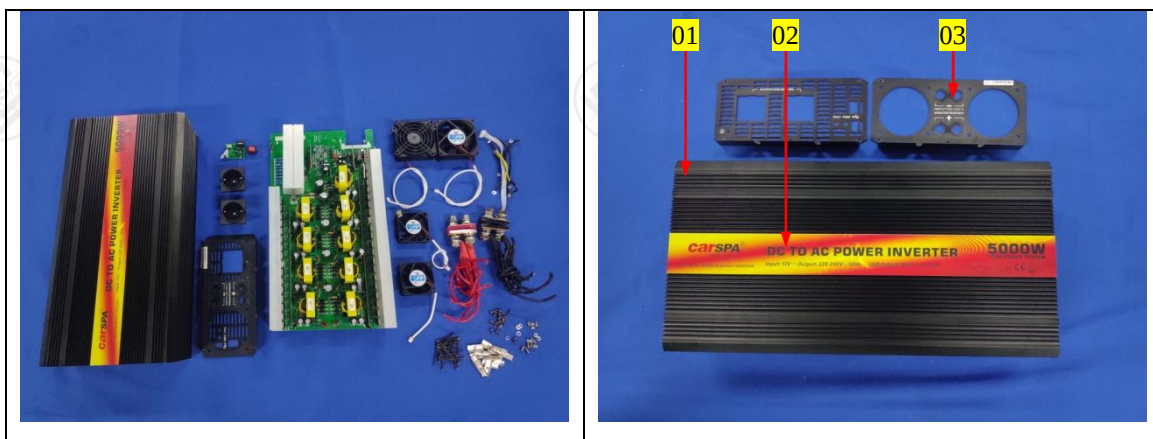
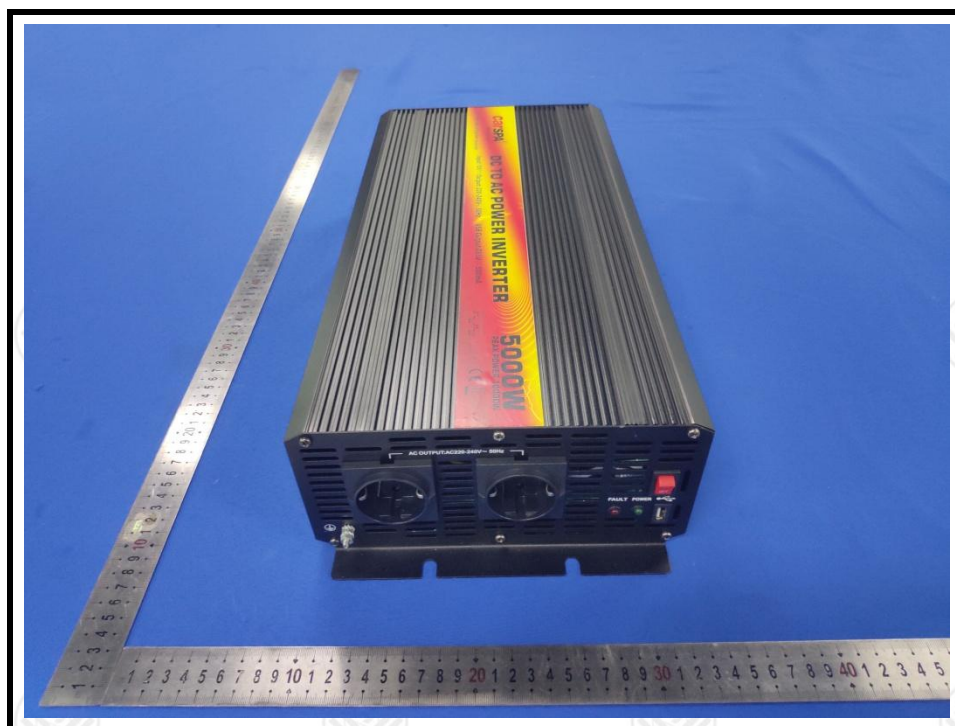


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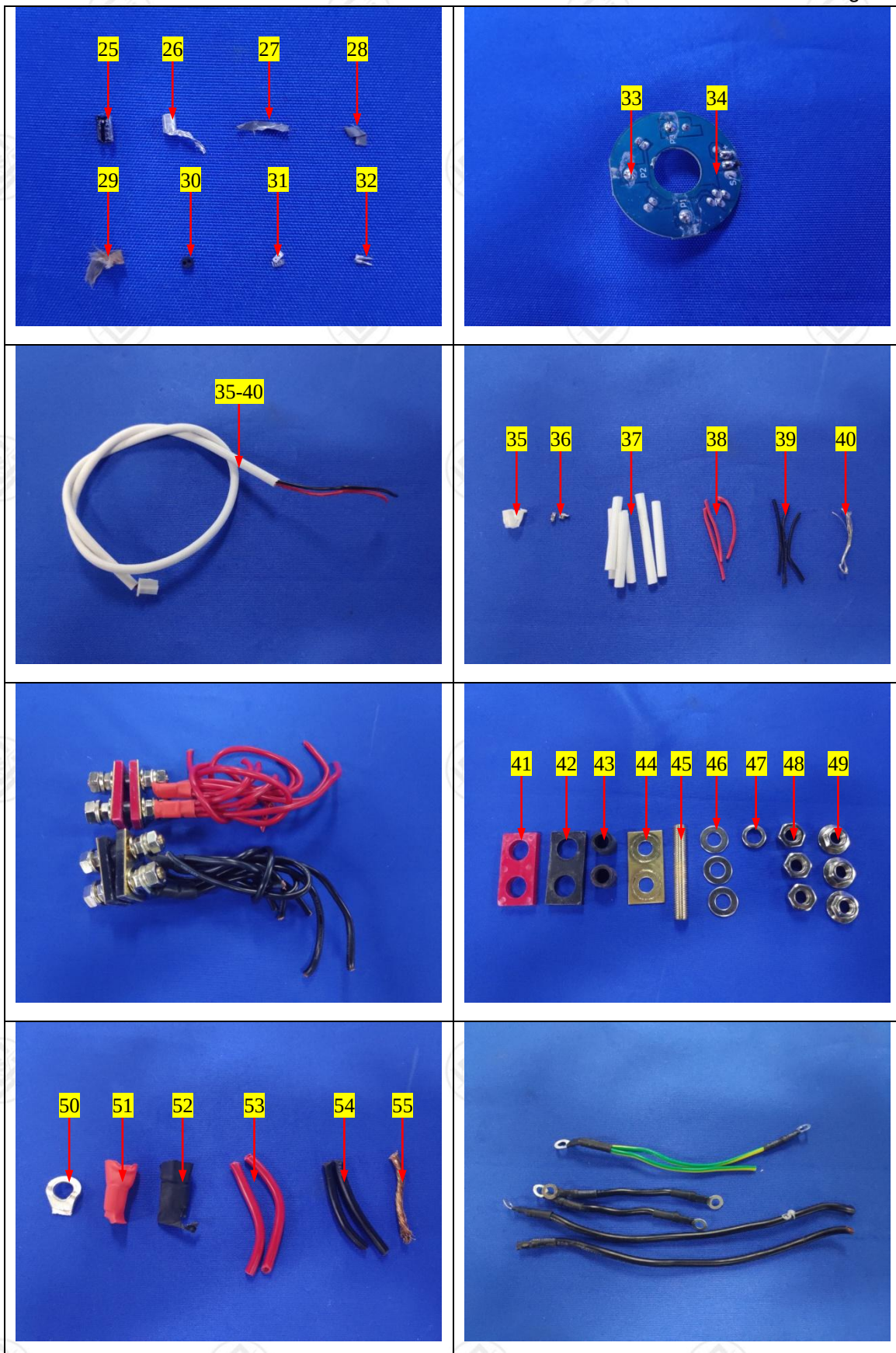


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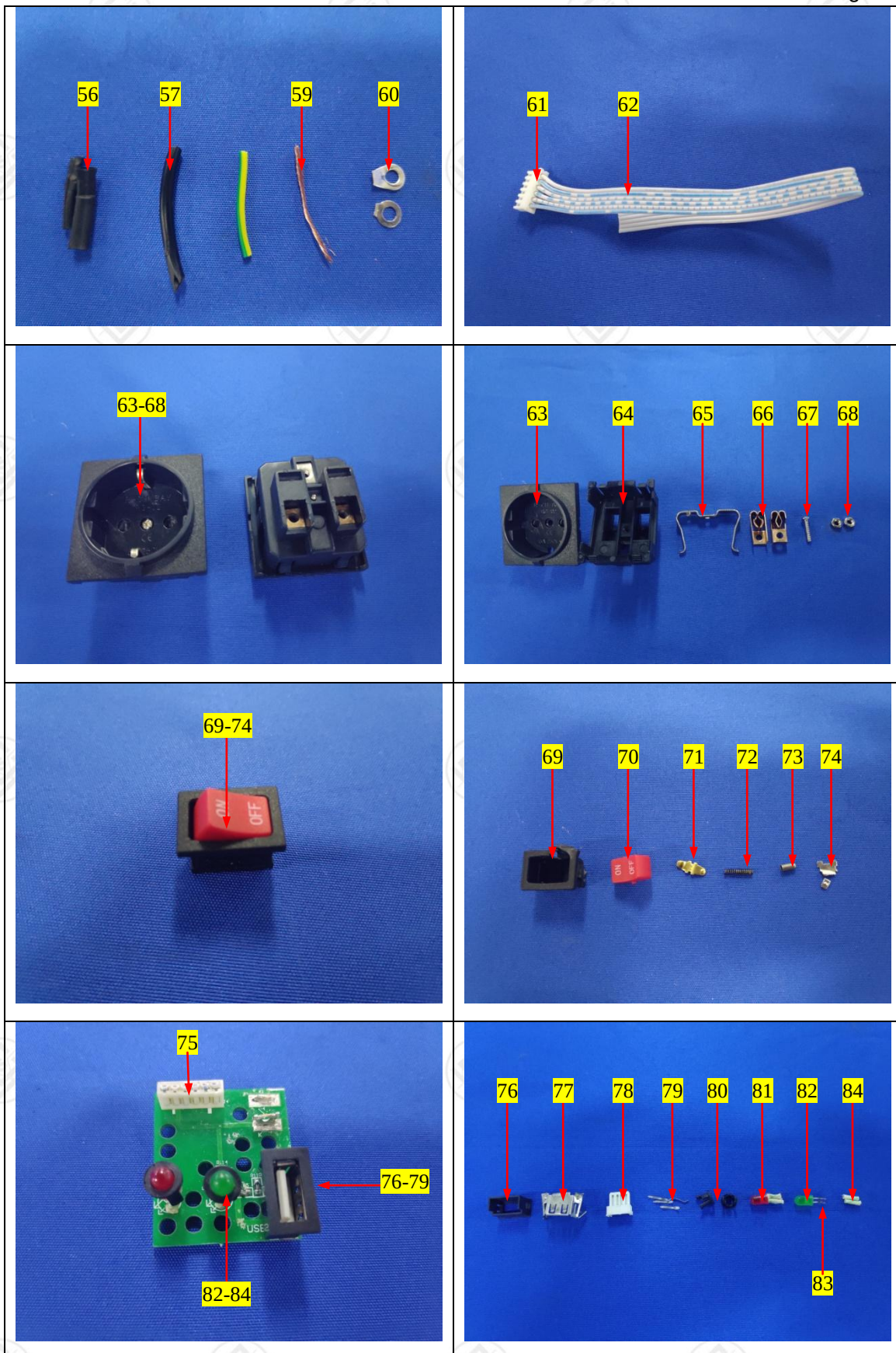


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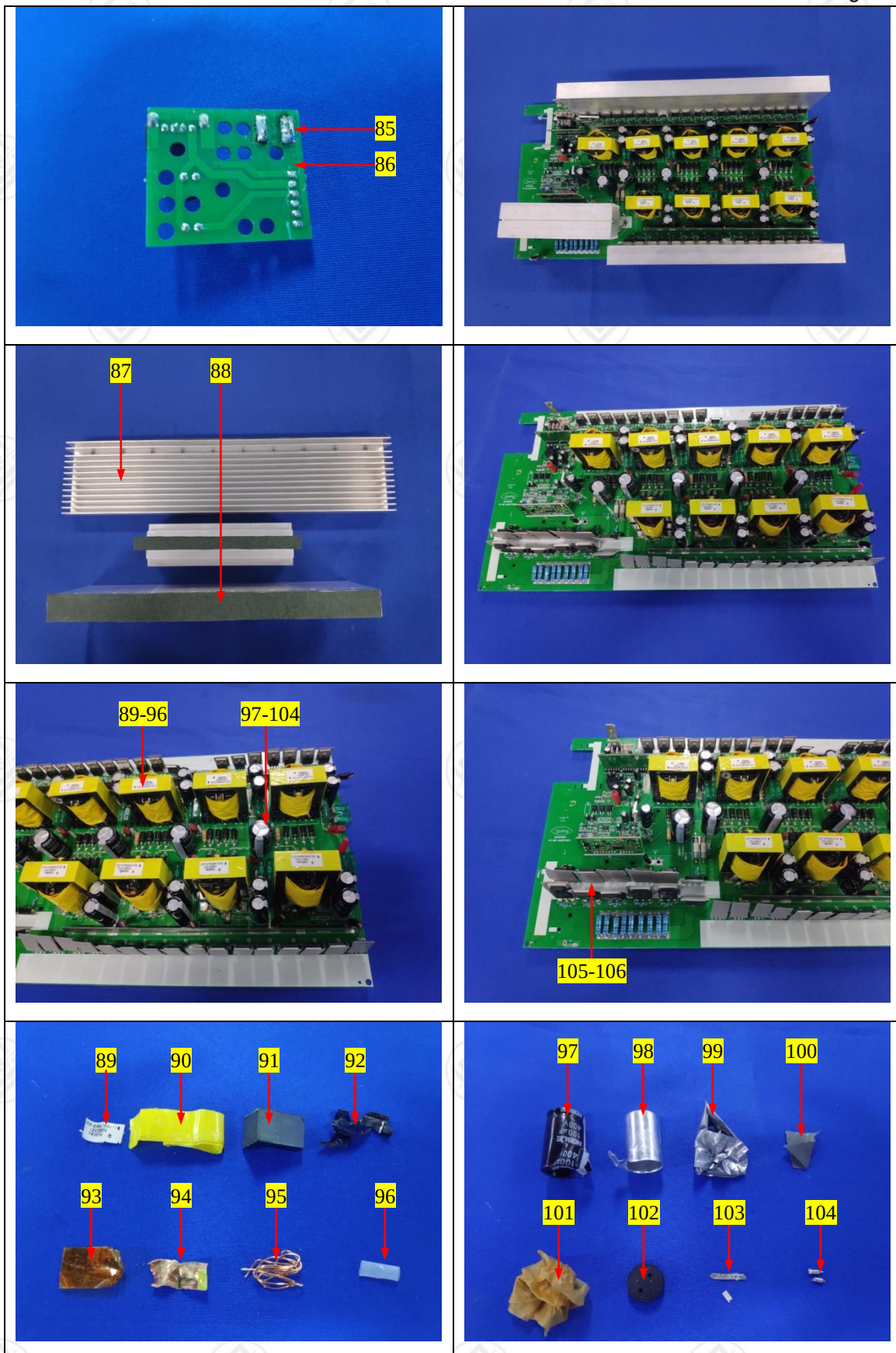


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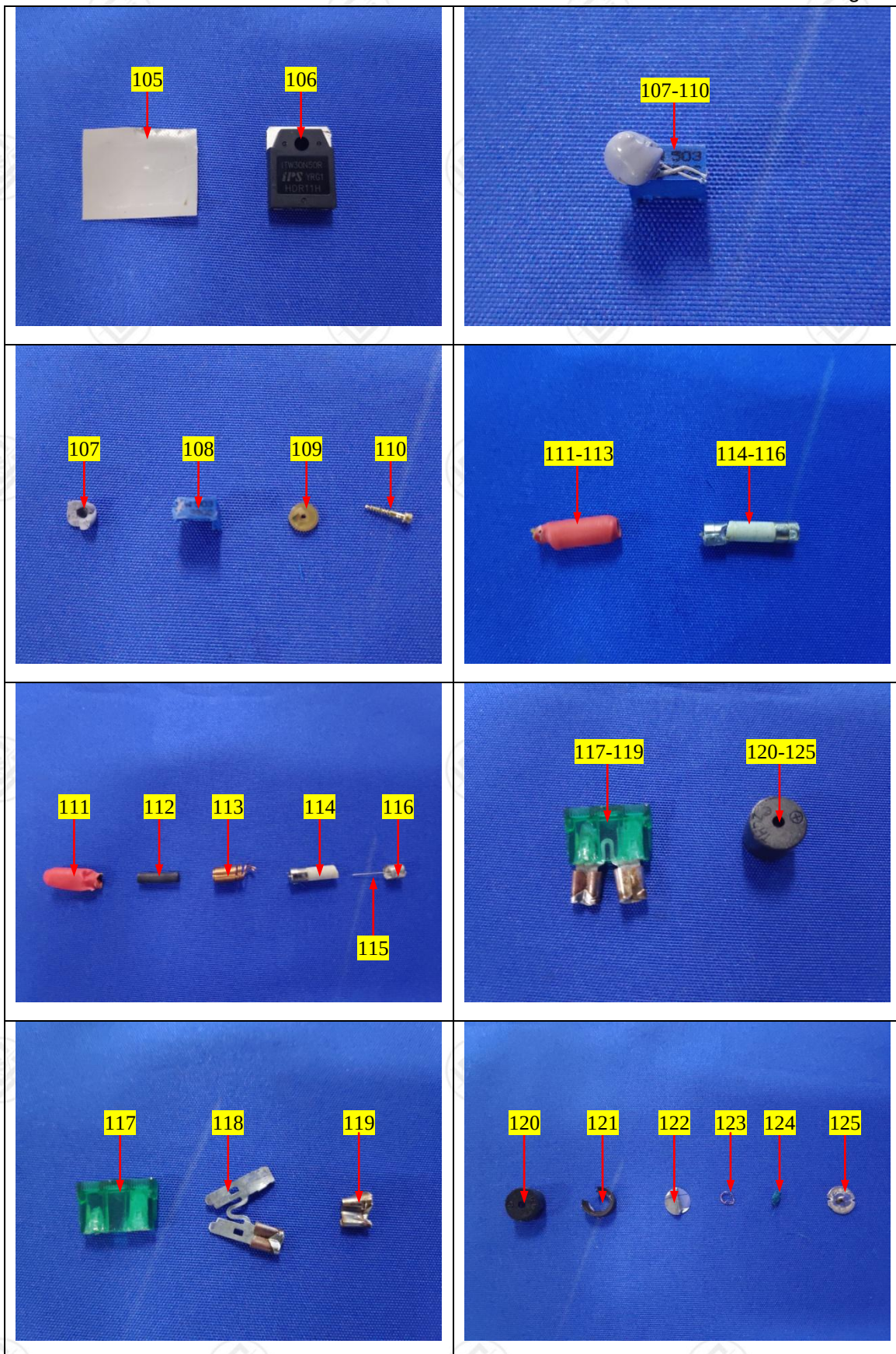


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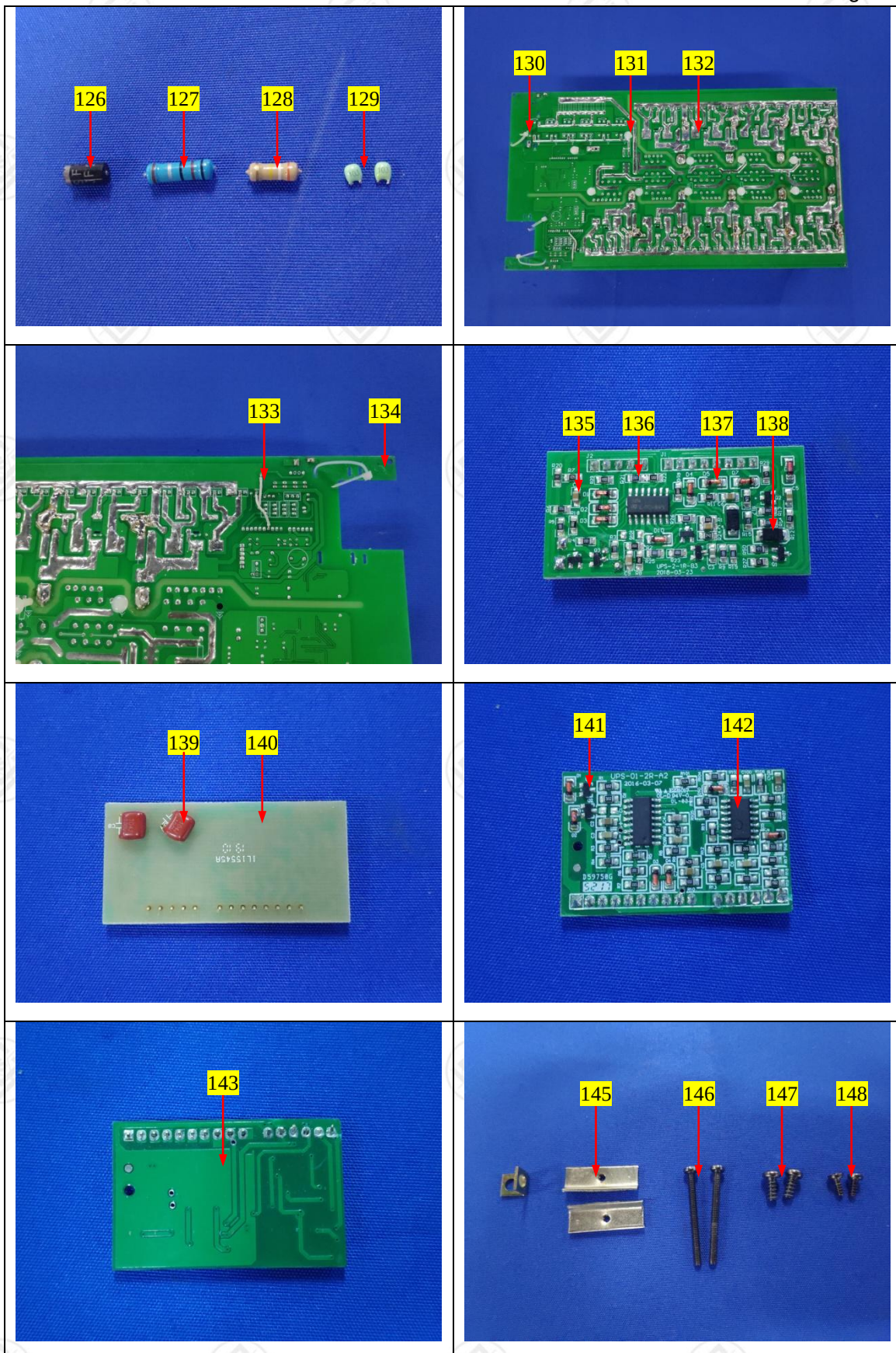


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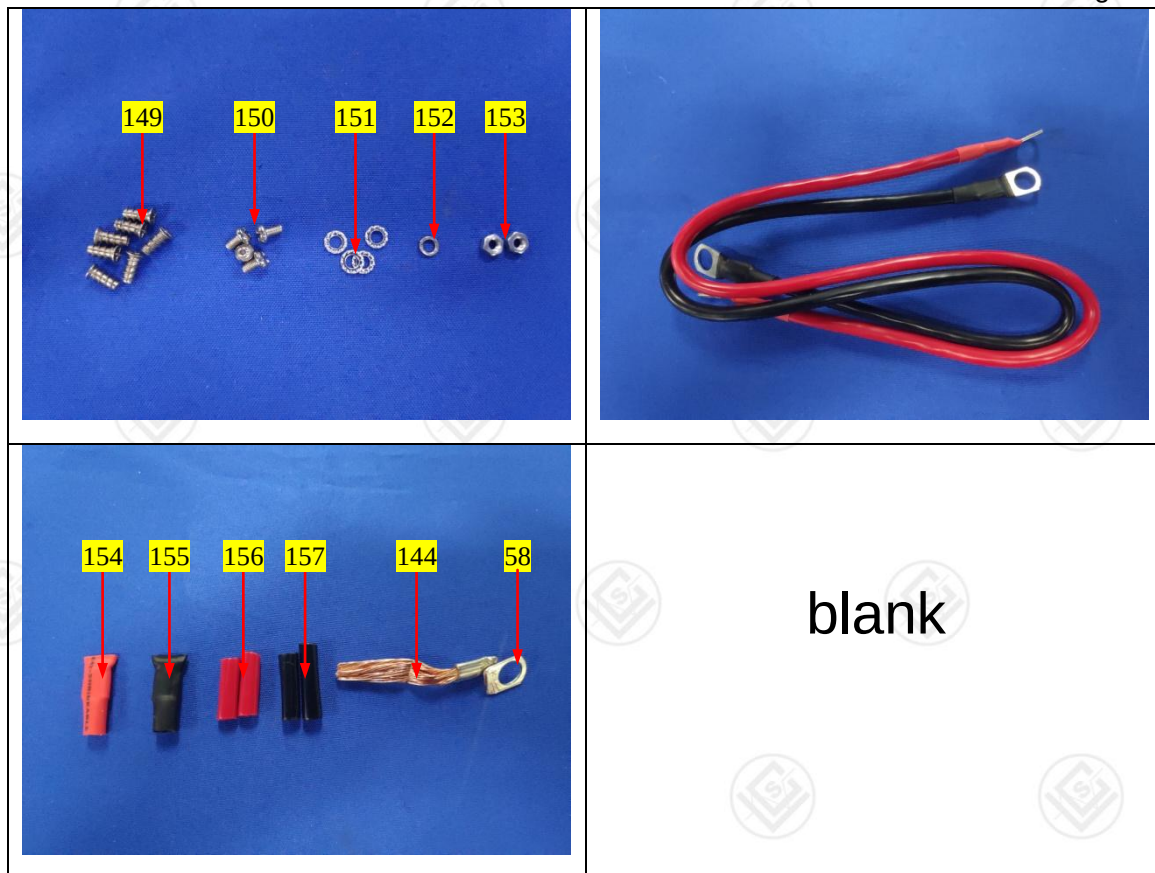


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***** End of Report *****

Statement:

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2. The result(s) shown in this report refer only to the sample(s) tested.
3. Without written approval of LCS, this report can't be reproduced except in full.
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