

SHANGHAI TOSUN TECHNOLOGY LTD.

2026-04-08

For and on behalf of
TÜV Rheinland (Shanghai) Co., Ltd.



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Material List:

Item: TSMaster, V2026.1.9.1811
TS3004

Material No.	Material	Color	Location
A001	Metal + coating	black	refer to photo
A002	Coating	black	refer to photo
A003	Plastic + printing + adhesive	white/blue	refer to photo
A004	Plastic	green	refer to photo
A005	Metal	silver	refer to photo
A006	Metal	silver	refer to photo
A007	Metal	silver	refer to photo
A008	Metal	black	refer to photo
A009	PCB board	-	refer to photo
A010	Electronic components	orange-brown	refer to photo
A011	Electronic components	black	refer to photo
A012	Electronic components	black	refer to photo
A013	Electronic components	black	refer to photo
A014	Electronic components	black	refer to photo
A015	Electronic components	brown	refer to photo
A016	Electronic components	black	refer to photo
A017	Metal	silver	refer to photo
A018	Electronic components	black	refer to photo
A019	Magnet	grey	refer to photo
A020	Magnet	grey	refer to photo
A021	Electronic components	light orange-brown	refer to photo
A022	Electronic components	black	refer to photo
A023	Electronic components	black	refer to photo
A024	Plastic	white	refer to photo
A025	Metal	light yellow	refer to photo
A026	Metal	silver	refer to photo
A027	Electronic components	black	refer to photo
A028	Electronic components	black	refer to photo

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A029	Plastic	black	refer to photo
A030	Electronic components	green	refer to photo
A031	Plastic	white	refer to photo
A032	Metal	red-orange	refer to photo
A033	Metal	silver	refer to photo
A034	Metal	silver	refer to photo
A035	Metal	silver	refer to photo
A036	Electronic components	black	refer to photo
A037	Electronic components	grey	refer to photo
A038	Electronic components	black	refer to photo
A039	Plastic + printing	red/white	refer to photo
A040	Plastic	white	refer to photo
A041	Plastic	black	refer to photo
A042	Electronic components	black	refer to photo
A043	Electronic components	black	refer to photo
A044	Metal	dark yellow-green	refer to photo
A045	Plastic	black	refer to photo
A046	Metal	silver	refer to photo
A047	Metal	silver	refer to photo
A048	Metal	silver	refer to photo
A049	Metal	silver	refer to photo
A050	Metal	silver	refer to photo
A051	Metal	dark orange-brown	refer to photo
A052	Plastic	white	refer to photo
A053	Electronic components	black	refer to photo
A054	Electronic components	black	refer to photo
A055	Electronic components	black	refer to photo
A056	Electronic components	black	refer to photo
A057	Plastic	black	refer to photo
A058	Metal	silver	refer to photo
A059	Plastic	black	refer to photo
A060	Metal	silver	refer to photo

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A061	Plastic	black	refer to photo
A062	Electronic components	-	refer to photo

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1.Screening Test by XRF spectroscopy

 Test Method: Cadmium, Lead, Mercury, Chromium, Bromine
 -- With reference to IEC 62321-3-1:2013

Test Result:

Material No.	Cd	Cr	Pb	Hg	Br
A001	BL	BL	BL	BL	n.a.
A002	BL	BL	BL	BL	BL
A003	BL	BL	BL	BL	BL
A004	BL	BL	BL	BL	BL
A005	BL	BL	BL	BL	n.a.
A006	BL	BL	d.(*1)	BL	n.a.
A007	BL	d.(*1)	BL	BL	n.a.
A008	BL	d.(*1)	BL	BL	n.a.
A009	BL	BL	BL	BL	d.(*1)
A010	BL	BL	BL	BL	BL
A011	BL	BL	BL	BL	BL
A012	BL	BL	BL	BL	BL
A013	BL	BL	BL	BL	BL
A014	BL	BL	BL	BL	BL
A015	BL	BL	BL	BL	BL
A016	BL	BL	BL	BL	BL
A017	BL	BL	d.(*1)	BL	n.a.
A018	BL	BL	BL	BL	BL
A019	BL	d.(*1)	BL	BL	n.a.
A020	BL	d.(*1)	BL	BL	n.a.
A021	BL	BL	BL	BL	BL
A022	BL	BL	BL	BL	BL
A023	BL	BL	BL	BL	BL
A024	BL	BL	BL	BL	BL
A025	BL	BL	BL	BL	n.a.
A026	BL	BL	BL	BL	n.a.
A027	BL	BL	BL	BL	BL
A028	BL	BL	BL	BL	BL
A029	BL	BL	BL	BL	BL
A030	BL	BL	BL	BL	BL
A031	BL	BL	BL	BL	BL
A032	BL	BL	BL	BL	n.a.
A033	BL	d.(*1)	BL	BL	n.a.
A034	BL	BL	d.(*1)	BL	n.a.
A035	BL	BL	BL	BL	n.a.
A036	BL	BL	BL	BL	BL
A037	BL	BL	BL	BL	BL

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A038	BL	BL	BL	BL	BL
A039	BL	BL	BL	BL	d.(*1)
A040	BL	BL	BL	BL	d.(*1)
A041	BL	BL	BL	BL	d.(*1)
A042	BL	BL	BL	BL	BL
A043	BL	BL	BL	BL	BL
A044	BL	BL	BL	BL	n.a.
A045	BL	BL	BL	BL	d.(*1)
A046	BL	d.(*1)	BL	BL	n.a.
A047	BL	BL	d.(*1)	BL	n.a.
A048	BL	BL	BL	BL	n.a.
A049	BL	BL	d.(*1)	BL	n.a.
A050	BL	BL	d.(*1)	BL	n.a.
A051	BL	BL	d.(*1)	BL	n.a.
A052	BL	BL	BL	BL	d.(*1)
A053	BL	BL	BL	BL	BL
A054	BL	BL	BL	BL	BL
A055	BL	BL	BL	BL	BL
A056	BL	BL	BL	BL	BL
A057	BL	BL	BL	BL	BL
A058	BL	BL	BL	BL	n.a.
A059	BL	BL	BL	BL	BL
A060	BL	BL	BL	BL	n.a.
A061	BL	BL	BL	BL	BL
A062	BL	BL	BL	BL	BL

Abbreviation: Pb = Lead
 Cd = Cadmium
 Hg = Mercury
 Cr = Chromium
 Br = Bromine
 n.a. = Not applicable
 BL = Below limit
 OL = Over limit
 d. = Detected

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Remark:

- (*1) The screening result was detected in the inconclusive region or over limits, thus the further wet chemistry tests are suggested.
- (*2) Component(s)/ materials(s) with an area of less than 2 mm x 2 mm will not be selected for testing according to RoHS Directive 2011/65/EU due to technical reason.
 For the test sample does not have detail materials information provided by client, visually identical materials (e.g. wire insulation, solder points, etc.) will be considered as the same material.
 Solder points on a printing circuit board will be examined several times based on optical anomalies or discoloration of the solder point(s) unless the solder point(s) is obviously generated automatically during production.
 All other materials will be sampled and tested at one test point representatively.
- (*3) The Chromium (Cr) and Bromine (Br) in the above result table indicate the total chromium and total bromine by means of XRF screening. PBBs, or PBDEs content shall be further confirmed with reference to IEC 62321-6:2015. Chromium (VI) shall be further confirmed with reference to IEC 62321-7-1:2015, IEC 62321-7-2:2017 or EN ISO 17075-1:2017.

XRF Screening limits for different matrices :

Material	Concentration (%)									
	Cd		Cr		Pb		Hg		Br	
Polymeric	BL	X<0.014 OL	BL	X	BL	X<0.133 OL	BL	X<0.134 OL	BL	X
Metallic	BL	X<0.014 OL	BL	X	BL	X<0.133 OL	BL	X<0.134 OL	n.a.	
Composite materials	BL	X<0.016 OL	BL	X	BL	X<0.153 OL	BL	X<0.154 OL	BL	X

Remark: The symbol X marks the region where further investigation is necessary.

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Cadmium, Lead, Chromium (VI), Mercury, Polybrominated biphenyls (PBB) and Polybrominated diphenyl ethers (PBDE)

Test Method: Total Cadmium, Lead, Mercury, Chromium
- Ref. to IEC 62321-4:2013+AMD1:2017 and IEC 62321-5:2013

Chromium (VI)
- For Metal material - Ref. to IEC 62321-7-1:2015
- For Polymer, Electronic material or others materials D Ref. to IEC 62321-7-2:2017

PBBs, PBDEs D Ref. to IEC 62321-6:2015

Test Result:

	Cd	Cr(VI)	Pb	Hg	PBBs	PBDEs
Maximum Permissible Limit (%)	0.01	0.1	0.1	0.1	0.1	0.1

Material No.	RL (%)					
	Cd	Cr ^{VI}	Pb	Hg	PBBs	PBDEs
	RL (%)					
	0.001	0.001	0.001	0.001	0.01	0.01
A006	n.a.	n.a.	3.28 6(c)	n.a.	n.a.	n.a.
A009	n.a.	n.a.	n.a.	n.a.	< RL	< RL
A017	n.a.	n.a.	2.77 6(c)	n.a.	n.a.	n.a.
A034	n.a.	n.a.	2.95 6(c)	n.a.	n.a.	n.a.
A039	n.a.	n.a.	n.a.	n.a.	< RL	< RL
A040	n.a.	n.a.	n.a.	n.a.	< RL	< RL
A041	n.a.	n.a.	n.a.	n.a.	< RL	< RL
A045	n.a.	n.a.	n.a.	n.a.	< RL	< RL
A047	n.a.	n.a.	2.23 6(c)	n.a.	n.a.	n.a.
A049	n.a.	n.a.	3.25 6(c)	n.a.	n.a.	n.a.
A050	n.a.	n.a.	2.68 6(c)	n.a.	n.a.	n.a.
A051	n.a.	n.a.	2.24 6(c)	n.a.	n.a.	n.a.
A052	n.a.	n.a.	n.a.	n.a.	< RL	< RL

Material No.	Chromium VI content for metal materials (µg/cm ²) (*1) RL: 0.10 µg/cm ²
A007	negative
A008	negative
A019	negative
A020	negative
A033	negative
A046	negative

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Abbreviation:

Pb	= Lead
Cd	= Cadmium
Hg	= Mercury
Cr	= Chromium
Cr (VI)	= Chromium (VI)
PBBs	= Total Polybrominated Biphenyls
PBDEs	= Total Polybrominated Diphenyl Ethers
<	= Less than
RL	= Reporting Limit
n.a.	= Not Applicable
^	= The total Chromium have been determined
%	= Percentage

Remark:

(*1) The Chromium (VI) content of metal sample in surface layer have been confirmed with reference to IEC 62321-7-1:2015 Annex.

	Chromium (VI) concentration	Qualitative result
Negative	<0.1µg/cm ²	The sample is negative (-ve) for Cr(VI). The Cr(VI) concentration is below the limit of quantification. The coating is considered a non-Cr(VI) based coating
Inconclusive	≥0.1µg/cm ² and ≤0.13 µg/cm ²	The result is considered to be inconclusive. Unavoidable coating variations may influence the determination. Recommendation: if additional samples are available, perform a total of 3 trials to increase sampling surface area. Use the averaged result of the 3 trails for the final determination.
Positive	>0.13 µg/cm ²	The sample is positive (+ve) for Cr(VI). Concentration is above the limit of quantification and the statistical margin of error. The sample coating is considered to contain Cr(VI).

6(c) Copper alloy containing up to 4 % lead by weight

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BBP, DBP, DEHP, DIBP content

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

Test Result:

	BBP	DBP	DEHP	DIBP
Maximum permissible Limit (%)	0.1	0.1	0.1	0.1

Test No.	Material No.	(%)			
		BBP	DBP	DEHP	DIBP
		RL (%)			
		0.005	0.005	0.005	0.005
T001	A002	< RL	< RL	< RL	< RL
T002	A003	< RL	< RL	< RL	< RL

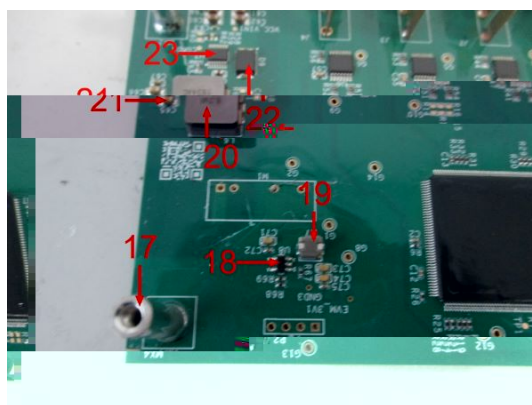
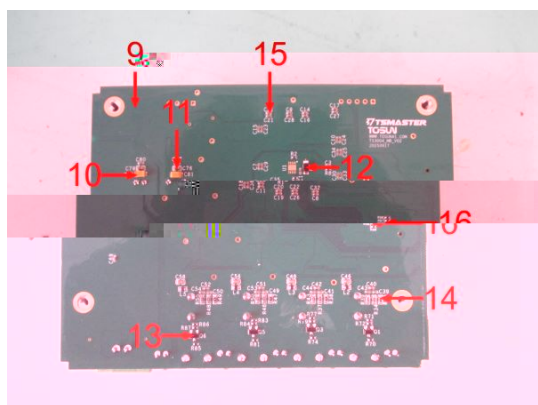
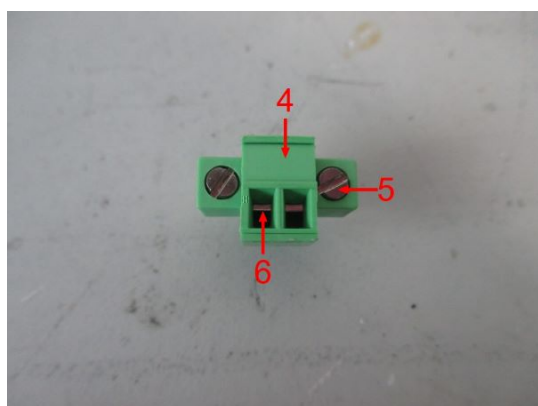
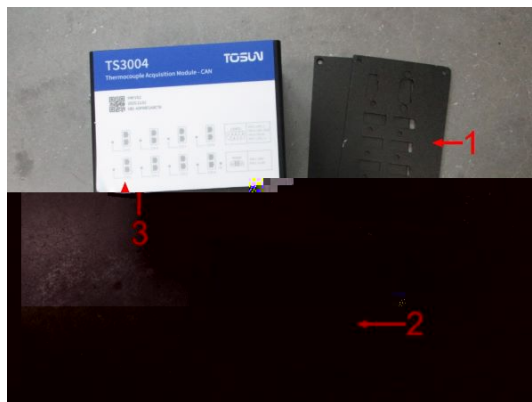
Abbreviation: BBP= Benzylbutyl phthalate
 DBP= Dibutyl phthalate
 DEHP= Bis(2-ethylhexyl) phthalate
 DIBP= Diisobutyl phthalate
 < = less than
 RL = Reporting Limit
 %= percentage

Remark:

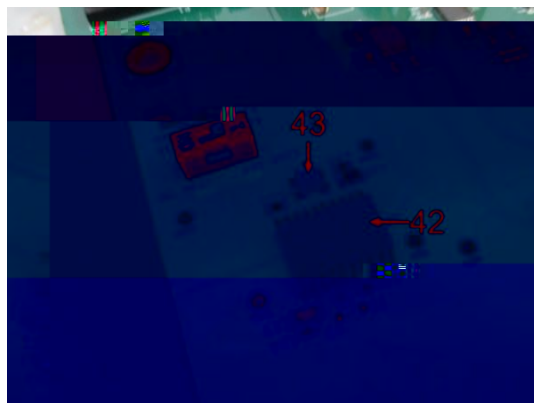
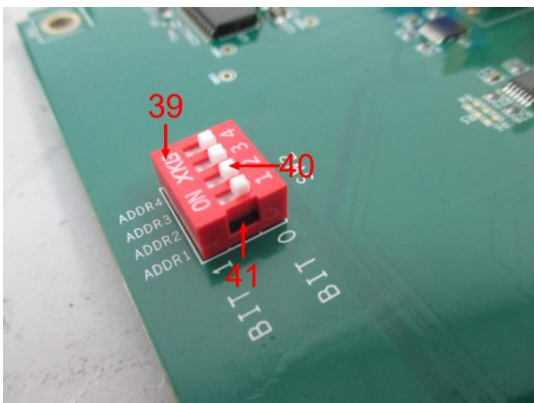
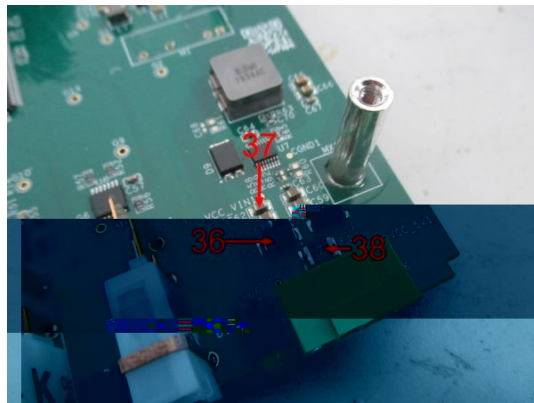
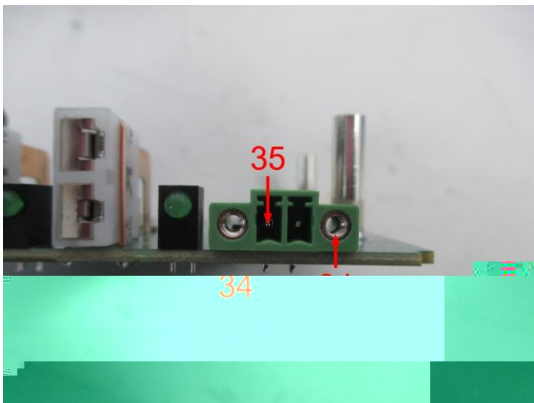
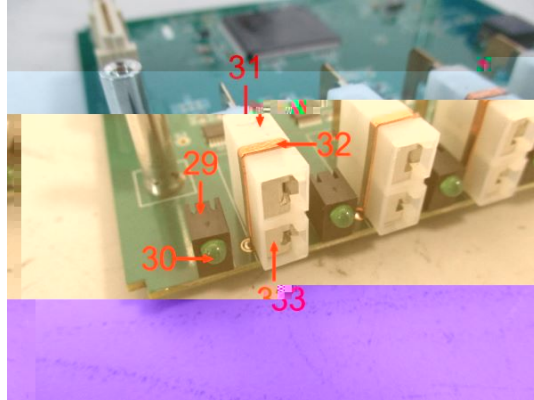
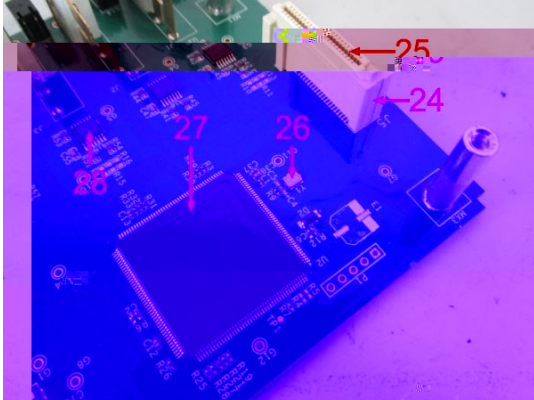
- * The maximum permissible limit is required from the amendment (EU) 2015/863 of RoHS Directive 2011/65/EU.

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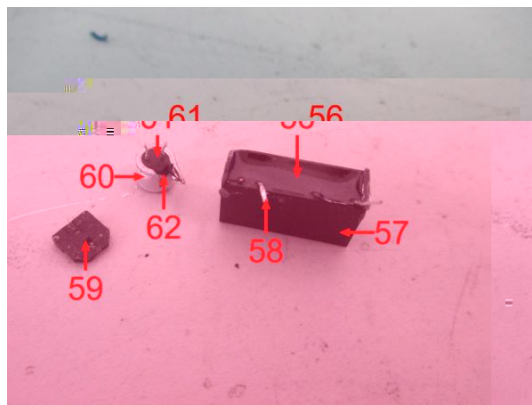
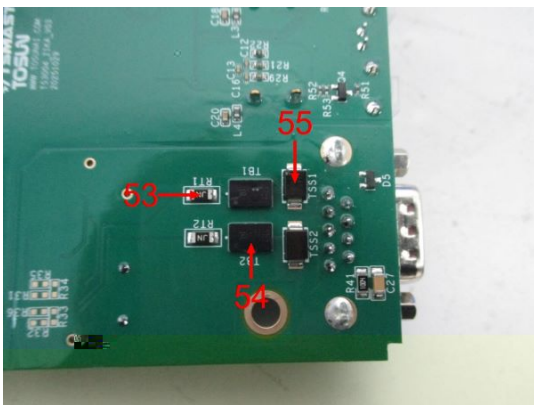
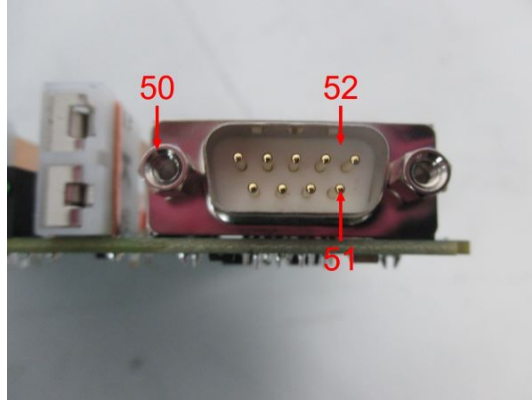
Sample Photos



Sample Photos



Sample Photos



- END -

