



Verification Report

Report No. A2180258692102

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CENTRE TESTING INTERNATIONAL



Applicant SHENZHEN SKIHOTAR SEMICONDUCTOR CO.,LTD.
Address A1806, GOLDEN CENTRAL BUSINESS BUILDING, NO. 3037
JINTIAN ROAD, FUTIAN DISTRICT, SHENZHEN, CHINA
Product Name DDR4 Memory Module

Conclusion

Tested Sample	According to Standard	Result
Submitted Sample	GB/T26572-2011	Pass

Pass means that the results shown on the report comply with the limits set by GB/T26572-2011.

Tested by Frank Zhang

Reviewed by Amber Peng



Approved by Hill Zheng
Hill Zheng
Technical Manager

Date Mar. 1, 2019

No.S140381754

Centre Testing International Group Co.,Ltd.

CTI Building, Xing Dong Community, Xin'an Sub-district, Bao'an District, Shenzhen City, Guangdong Province, P.R. China

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The following sample(s) and sample information was/were submitted and identified by/on the behalf of the client

Product Part No. STxU4xxxxx;STxS4xxxxx/x stands for different frequency and capacity.

Client Reference Information STxU4xxxxx;STxS4xxxxx/x stands for different frequency and capacity.

Sample Received Date Dec. 27, 2018

Testing Period Dec. 27, 2018 to Jan. 25, 2019

Test Requested

- 1.As specified by client, to screen Lead(Pb), Cadmium(Cd), Mercury(Hg), Chromium(Cr) and Bromine(Br) in the submitted sample(s) by XRF.
- 2.As specified by client, when screening results exceed the XRF screening limit in GB/T26572-2011, further use of chemical methods are required to test the Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers(PBDEs) in the submitted samples.

Photo(s) of the Product(s)

DDR4 Memory Module



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Test Method

A.Screening limits for regulated elements according to GB/T26572-2011(Unit: mg/kg)

Element	Test Method	Polymers	Metals	Composite material
Pb	GB/T26125-2011 Screening – Lead, mercury, cadmium, total chromium and total bromine by X-ray fluorescence spectrometry	$BL \leq (700-3\sigma) < X$ $< (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X$ $< (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X$ $< (1500+3\sigma) \leq OL$
Cd		$BL \leq (70-3\sigma) < X < (130+3\sigma)$ $\leq OL$	$BL \leq (70-3\sigma) < X < (130+3\sigma)$ $\leq OL$	$LOD < X < (150+3\sigma) \leq OL$
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		$BL \leq (300-3\sigma) < X$	N/A	$BL \leq (250-3\sigma) < X$

B.Chemical Test

Tested Item(s)	Test Method	Measured Equipment(s)	MDL	Limit
Lead (Pb)	GB/T26125-2011	ICP-OES	10 mg/kg	1000 mg/kg
Cadmium (Cd)	GB/T26125-2011	ICP-OES	10 mg/kg	100 mg/kg
Mercury (Hg)	GB/T26125-2011	ICP-OES	10 mg/kg	1000 mg/kg
Hexavalent Chromium (Cr(VI))	GB/T26125-2011	UV-Vis	/	1000 mg/kg
	GB/T26125-2011	UV-Vis	10 mg/kg	
Polybrominated Biphenyls (PBBs)	GB/T26125-2011	GC-MS	100mg/kg	1000 mg/kg
Polybrominated Diphenyl Ethers(PBDEs)	GB/T26125-2011	GC-MS	100mg/kg	1000 mg/kg

Remark:

- BL = Under the screening limit
- OL = Above the screening limit
- X =The range of needing to do further testing
- 3σ =The reproducibility of analytical instruments
- N/A= Not applicable
- LOD= Detection limit

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Test Result(s)

Sample No.	Sample Description	Tested Items	XRF Screening Test	Chemical Test (mg/kg)	Conclusion	Sample Received/ Resubmitted Date
001	Silvery metal	Pb	BL	/	PASS	Dec. 27, 2018
		Cd	BL	/		
		Hg	BL	/		
		Cr(Cr(VI))	BL	/		
		Br(PBBs&PBDEs)	N/A	/		
002	Transparent/blue tape with adhesive paste	Pb	BL	/	PASS	Dec. 27, 2018
		Cd	BL	/		
		Hg	BL	/		
		Cr(Cr(VI))	BL	/		
		Br(PBBs&PBDEs)	BL	/		
003	Black foam with adhesive paste	Pb	BL	/	PASS	Dec. 27, 2018
		Cd	BL	/		
		Hg	BL	/		
		Cr(Cr(VI))	BL	/		
		Br(PBBs&PBDEs)	BL	/		
004	White double-sided adhesive paste	Pb	BL	/	PASS	Dec. 27, 2018
		Cd	BL	/		
		Hg	BL	/		
		Cr(Cr(VI))	BL	/		
		Br(PBBs&PBDEs)	BL	/		
005	White label with black printing	Pb	BL	/	PASS	Dec. 27, 2018
		Cd	BL	/		
		Hg	BL	/		
		Cr(Cr(VI))	BL	/		
		Br(PBBs&PBDEs)	BL	/		
006	Silvery metal	Pb	BL	/	PASS	Dec. 27, 2018
		Cd	BL	/		
		Hg	BL	/		
		Cr(Cr(VI))	BL	/		
		Br(PBBs&PBDEs)	N/A	/		

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Sample No.	Sample Description	Tested Items	XRF Screening Test	Chemical Test (mg/kg)	Conclusion	Sample Received/ Resubmitted Date
007	Deep brown capacitance (Tested as a whole)	Pb	BL	/	PASS	Dec. 27, 2018
		Cd	BL	/		
		Hg	BL	/		
		Cr(Cr(VI))	BL	/		
		Br(PBBs&PBDEs)	BL	/		
008	Black resistance (Tested as a whole)	Pb	BL	/	PASS	Dec. 27, 2018
		Cd	BL	/		
		Hg	BL	/		
		Cr(Cr(VI))	BL	/		
		Br(PBBs&PBDEs)	BL	/		
009	Brown-gray capacitance (Tested as a whole)	Pb	BL	/	PASS	Dec. 27, 2018
		Cd	BL	/		
		Hg	BL	/		
		Cr(Cr(VI))	BL	/		
		Br(PBBs&PBDEs)	BL	/		
010	Brown-yellow capacitance (Tested as a whole)	Pb	BL	/	PASS	Dec. 27, 2018
		Cd	BL	/		
		Hg	BL	/		
		Cr(Cr(VI))	BL	/		
		Br(PBBs&PBDEs)	BL	/		
011	Brown-green capacitance (Tested as a whole)	Pb	BL	/	PASS	Dec. 27, 2018
		Cd	BL	/		
		Hg	BL	/		
		Cr(Cr(VI))	BL	/		
		Br(PBBs&PBDEs)	BL	/		
012	Black resistance (Tested as a whole)	Pb	BL	/	PASS	Dec. 27, 2018
		Cd	BL	/		
		Hg	BL	/		
		Cr(Cr(VI))	BL	/		
		Br(PBBs&PBDEs)	BL	/		

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Sample No.	Sample Description	Tested Items	XRF Screening Test	Chemical Test (mg/kg)	Conclusion	Sample Received/ Resubmitted Date
013	IC (Tested as a whole)	Pb	BL	/	PASS	Dec. 27, 2018
		Cd	BL	/		
		Hg	BL	/		
		Cr(Cr(VI))	BL	/		
		Br(PBBs&PBDEs)	BL	/		
014	Brown capacitance (Tested as a whole)	Pb	BL	/	PASS	Dec. 27, 2018
		Cd	BL	/		
		Hg	BL	/		
		Cr(Cr(VI))	BL	/		
		Br(PBBs&PBDEs)	BL	/		
015	IC (Tested as a whole)	Pb	BL	/	PASS	Dec. 27, 2018
		Cd	BL	/		
		Hg	BL	/		
		Cr(Cr(VI))	BL	/		
		Br(PBBs&PBDEs)	BL	/		
016	Deep brown capacitance (Tested as a whole)	Pb	BL	/	PASS	Dec. 27, 2018
		Cd	BL	/		
		Hg	BL	/		
		Cr(Cr(VI))	BL	/		
		Br(PBBs&PBDEs)	BL	/		
017	Black resistance (Tested as a whole)	Pb	BL	/	PASS	Dec. 27, 2018
		Cd	BL	/		
		Hg	BL	/		
		Cr(Cr(VI))	BL	/		
		Br(PBBs&PBDEs)	BL	/		
018	PCB (Tested as a whole)	Pb	BL	/	PASS	Dec. 27, 2018
		Cd	BL	/		
		Hg	BL	/		
		Cr(Cr(VI))	BL	/		
		Br(PBBs&PBDEs)	IN	N.D.		

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Sample No.	Sample Description	Tested Items	XRF Screening Test	Chemical Test (mg/kg)	Conclusion	Sample Received/ Resubmitted Date
019	Silvery metal solder	Pb	BL	/	PASS	Dec. 27, 2018
		Cd	BL	/		
		Hg	BL	/		
		Cr(Cr(VI))	BL	/		
		Br(PBBs&PBDEs)	N/A	/		

Remark:

- N.D. = Not Detected (<MDL)
- MDL = Method Detection Limit
- mg/kg = ppm = parts per million
- 1000 mg/kg = 0.1%
- /=Not tested
- IN= Uncertain, Further chemical test
- N/A= Not applicable
- BL = Under the screening limit
- When conducting the test for PBBs&PBDEs, XRF was introduced to screen Br Exclusively; When conducting the test for Hexavalent Chromium, XRF was introduced to screen Chromium exclusively.
- According to the client's statement, reference information see the following table:

Sample No.	Reference Report No.	Sample No. in Reference Report
002	A2180258692101	002
004	A2180258692101	003

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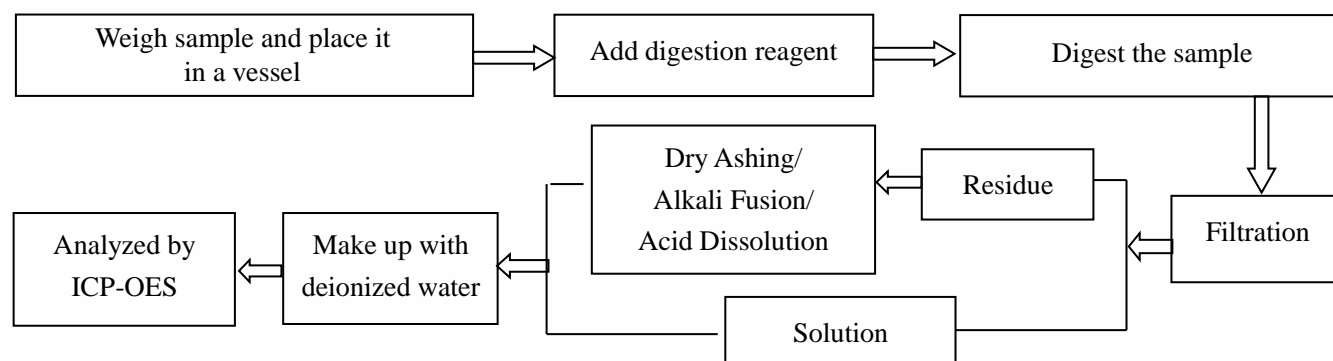
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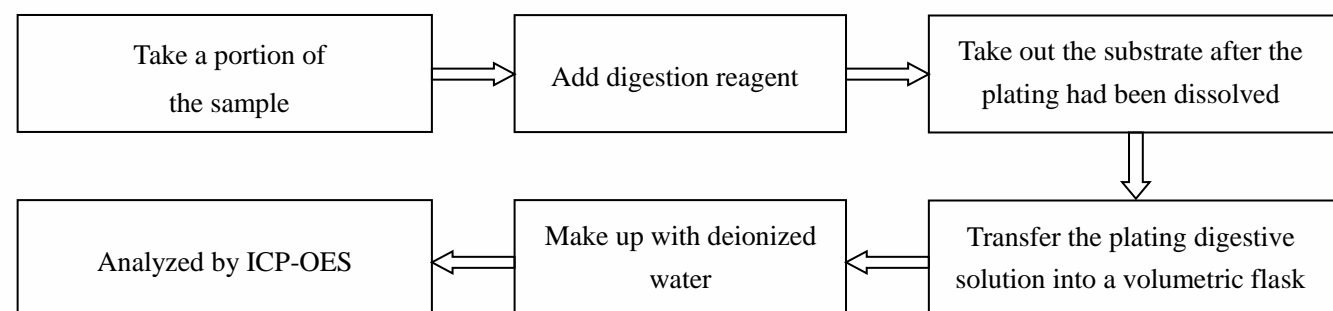
Test Process

1. Lead (Pb), Cadmium (Cd)

1) Non-plating samples

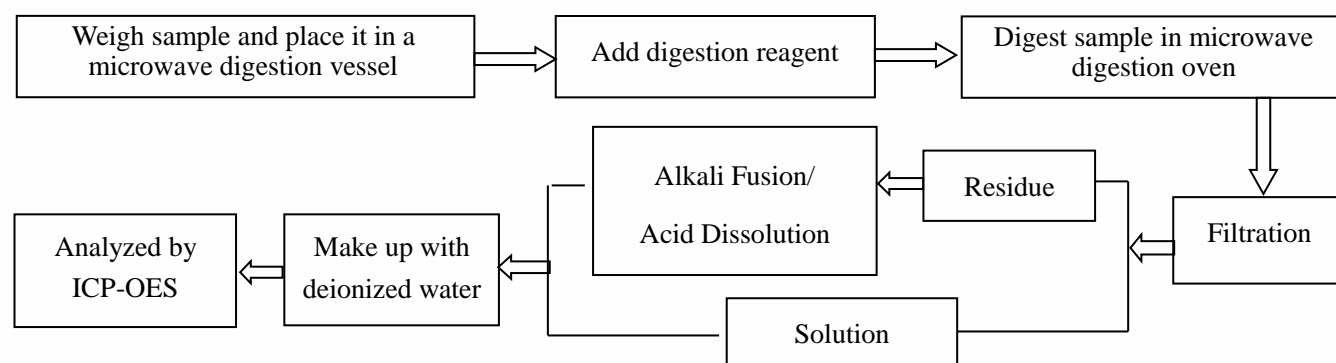


2) Plating samples



2. Mercury (Hg)

1) Non-plating samples

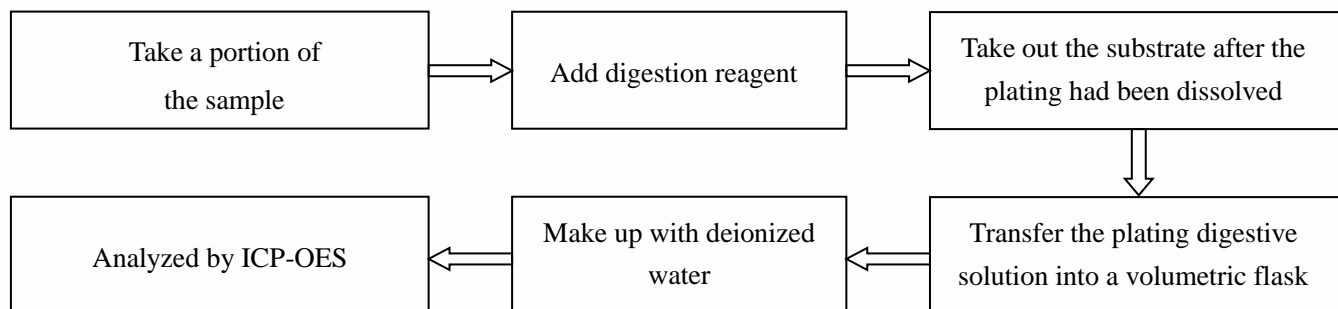


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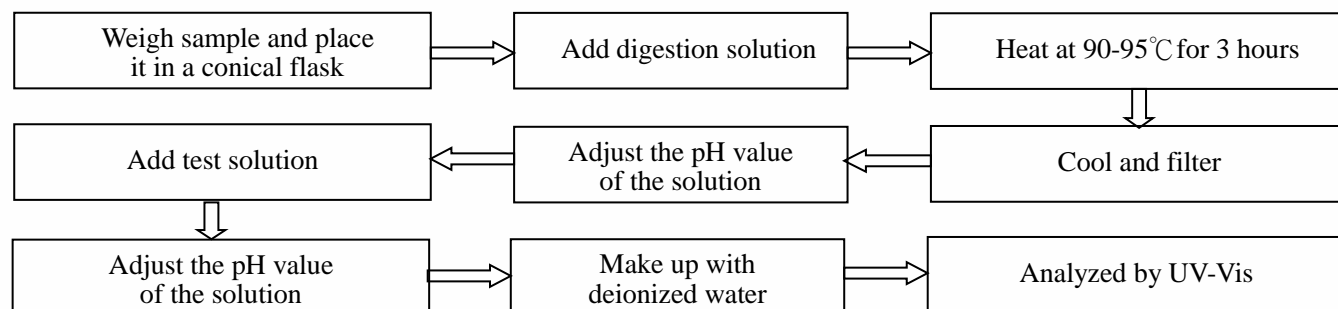
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2) Plating samples

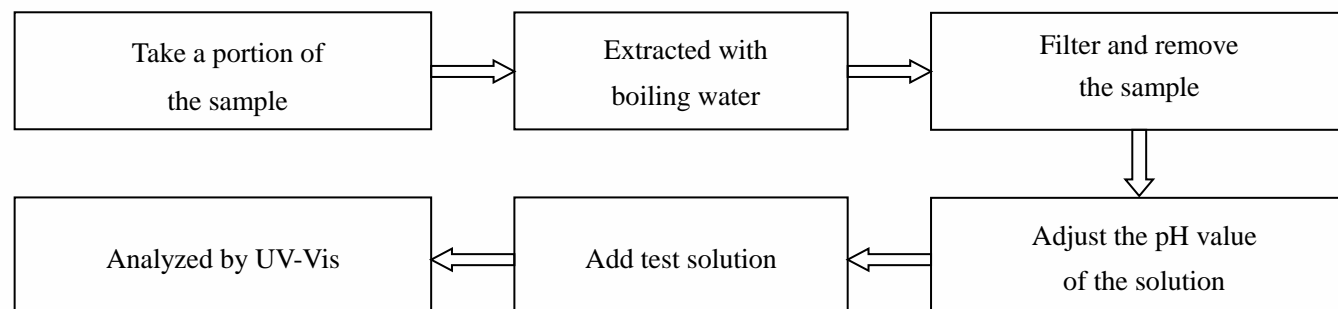


3. Hexavalent Chromium (Cr(VI))

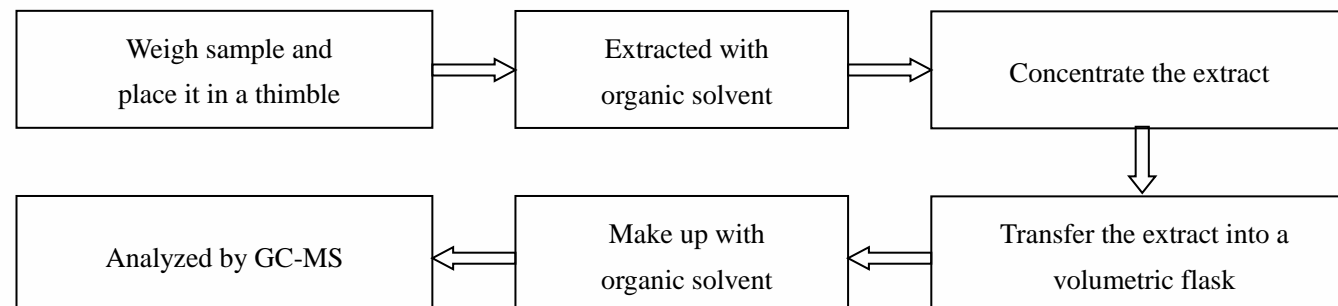
1) Non-metal sample(s)



2) Metal sample(s)



4. Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers(PBDEs)

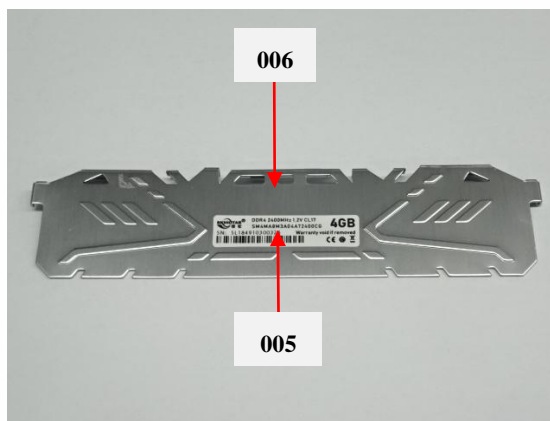
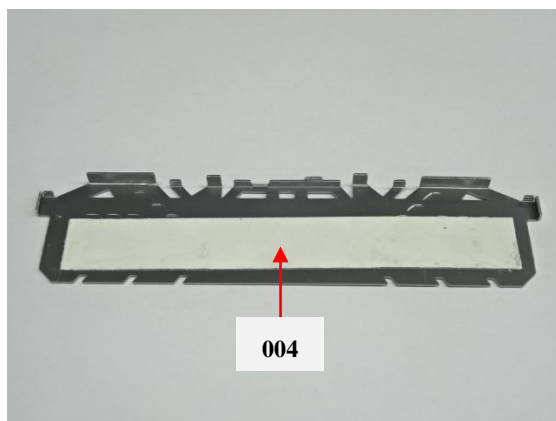
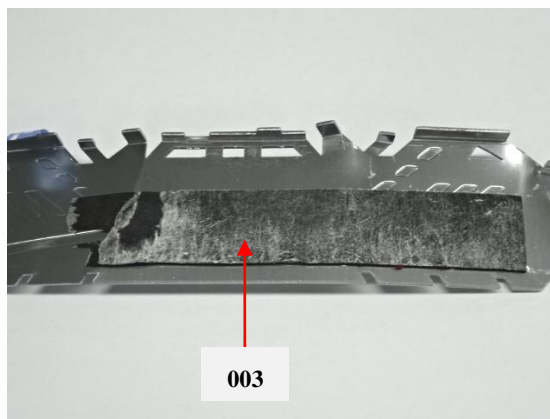
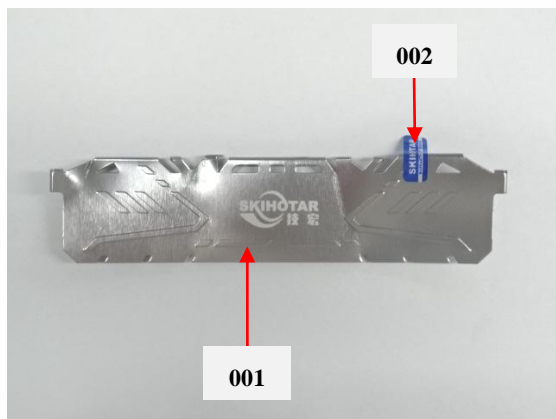


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Photo(s) of the tested component(s)

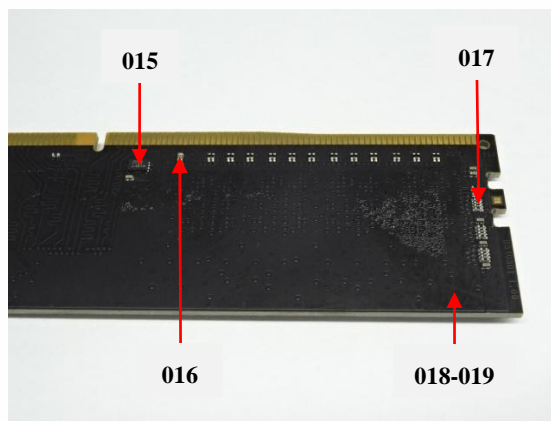
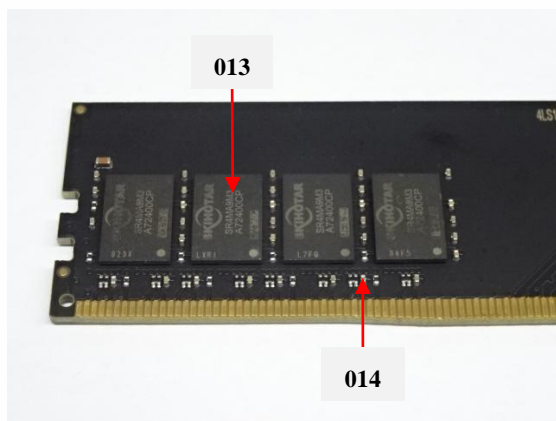
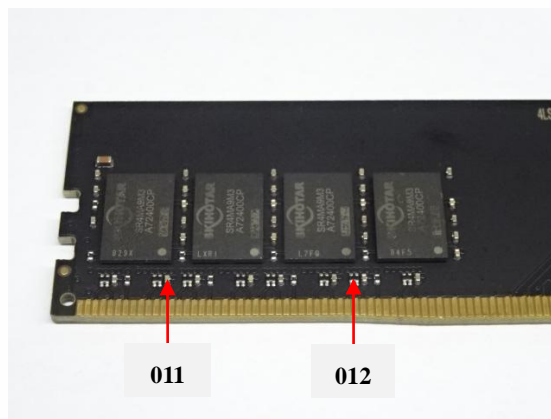
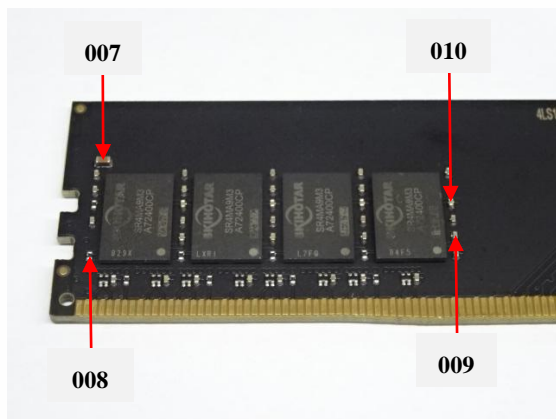


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Photo(s) of the tested component(s)



*** End of Report ***

Statement:

1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. The sample(s) and sample information was/were provided by the client who should be responsible for the authenticity which CTI hasn't verified;
3. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Without written approval of CTI, this report can't be reproduced except in full;
5. In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.