

96SD3-4G1600NN-TR Test Report

Test Requestor	Jocy.Lin	Job Title		Release Date	2012-5-30
Testing Engineer	Tenthy.Zhang	Job Title	AKDC DQA Engineer	Revision	V1.1
Approved by	Sophie.Song	Job Title	AKDC DQA assistant manager	Release Status	Formal Release



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Revision History:

Revision Date	Revision	Description	Creator
2011/08/17	1.0	First version released	Jier.liu
2012/04/25	1.1	Adjust the test method, update report format.	



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Testing Report and Approval Sheet Performed in KUNSHAN

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Test Result Definition:

Item	Description
Pass	Compatibility test properly without any problem.
Fail	Compatibility test can't work properly and can't meet the product spec, please describe issue to the "Remark" item detailedly.
No test	No test (no test tool or device or driver not ready), please write reason to the "Remark" item.
N/A	Spec not support.
Limitation	Compatibility issue Limitation, it needs formal approval mail or other formal reply from PM or Applicant or Manufacturer.



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Test Item List Summary

Num.	Test item	Result	Remark
Chapter 1	Function test	Pass	
1.1	Device Information confirm	Pass	
1.2	Basic function test	Pass	
Chapter 2	Compatibility test	Pass	
2.1	With OS compatibility test	Pass	
2.2	With motherboard compatibility test	Pass	
2.3	With CPU compatibility test	Pass	
Chapter 3	Performance test	Pass	
3.1	Sisoftware Sandra	Pass	
Chapter 4	Reliability test	Pass	
4.1	High/Low temperature test	Pass	
4.2	Room temperature test	Pass	

Appendix 1:Motherboard List

MB/SBC	Core Chipset	Remark
UNO-2184	Intel Cougar Point-M QM67	
AIMB-272	Intel Cougar Point-M QM67	
PCM-8206	Atom D2700+NM10	Chipset limitation, support the max memory size is 4GB, so only test the bottom Socket, and down to Frequency1067.
PCM-8506	Atom N2800+NM10	Chipset limitation, down to Frequency1067.



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Product Information:

Advantech Part Number	96SD3-4G1600NN-TR
Manufacturer	Transcend
Module Part NO.	TS512MSK64V6N
Transcend DB P/N	TS7KSN28440-6M
PCB Part NO.	09-2844
IC Brand(chip model)	Micron 2DM77 D9PFJ
Memory Category	DDR3
Socket type	204Pin
Size	4GB
ECC®	NO
Bandwidth	12.8GB/sec
Speed Grade	1600Mbps
Max Frequency	800MHz
CAS Latency	CL9
Organization	512Mx64
Component Composition	258Mx8bit
Number of Rank	2
Power supply(VDD)	$1.5V \pm 0.075V$
Operating Temperature	0℃-95℃
Dimension (W x H x D)	67.60x30x1.00(mm)
ROHS Status (Yes/No)	Yes



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Photo:





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Test Platform

MB/SBC	UNO-2184		
PCB version	A101-2	CPU	Intel i7-2715QE 2.10GHz
BIOS version	2184X016	DRAM	Transcend DDR3 1600 4GBX2 SODIMM
Core Chipset	Intel Cougar Point-M QM67	Backplane	NA
VGA Chipset	CPU integrated VGA Controller	Other	

MB/SBC	AIMB-272		
PCB version	A101-3	CPU	Intel i7-2710QE 2.10GHz
BIOS version	A272X014	DRAM	Transcend DDR3 1600 4GBX2 SODIMM
Core Chipset	Intel Cougar Point-M QM67	Backplane	NA
VGA Chipset	CPU integrated VGA Controller	Other	

MB/SBC	PCM-8206		
PCB version	A101-1	CPU	Onboard D2700 1.86GHz
BIOS version	8206x001	DRAM	Transcend DDR3 1600 4GBX2 SODIMM
Core Chipset	Atom D2700+NM10	Backplane	NA
VGA Chipset	CPU integrated VGA Controller	Other	

MB/SBC	PCM-8506		
PCB version	A101-2	CPU	Onboard N2800 1.86GHz
BIOS version	8506x006	DRAM	Transcend DDR3 1600 4GBX2 SODIMM
Core Chipset	Intel N2800+ICH10	Backplane	NA
VGA Chipset	CPU integrated VGA Controller	Other	



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Test Software

Utilities	Version / Description
Power On/Off (For Reliability test)	
Passmark Burn_In Test Pro (For Reliability test)	V7.0 build 1005
MemTest 86+ (For Function test)	V4.20
SiSoftware Sandra 2011 (for Performance test)	V17.77
EVEREST Ultimate Edition	V5.5



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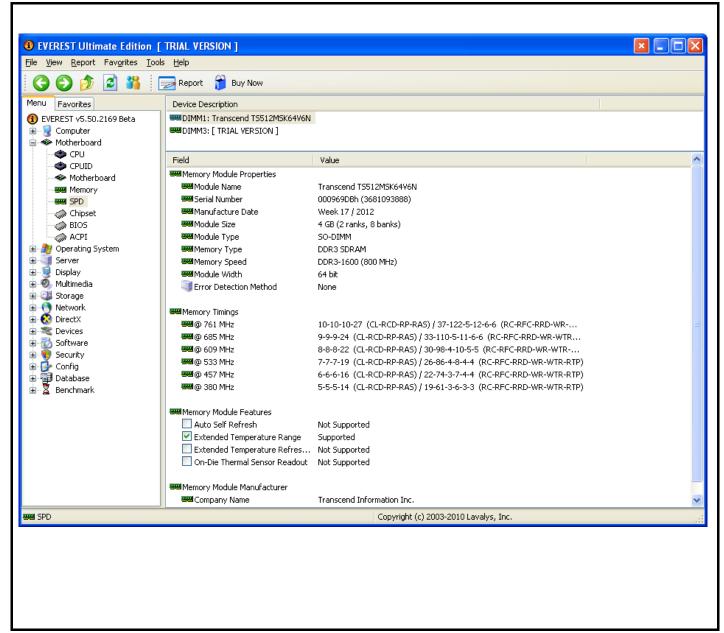
Test Item

Chapter 1: Function test

1.1 Device Information confirm

The test ensures the product meets SPEC. Check Memory information under EVEREST Ultimate Edition-Motherboard-SPD- Device description, and paste the screenshot of test result as below.

Test result (MB/SBC: UNO-2184):





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1.2 Basic function test

The test ensures the product basic function normally. Please see the table list as below:

Please see the test criteria as below:

- The Memory can boot up without any problem and power on/off 10 times, the test must be pass;
- 2. Check Memory size and frequency can display correctly and pass the self-test;
- 3. Verify the Memory can't have any problem when running memtest86+ v4.20 test program for 3 cycles. And paste the photo of test result as below.

MB/SBC: UNO-2184

Test Item	Result	Remark
oot up(power on/off) test	Pass	
OST test	Pass	
Semtest86+ V4.20	Pass	
emtest86 test result(photo):		1
L1 Cache: 32K 59866 MB/s; Test #6 IN L2 Cache: 256K 25868 MB/s; Testing: 61 L3 Cache: 6144K 20542 MB/s; Pattern: Memory: 8076M 14652 MB/s; Pattern: INC: Intel(R) Core(TM) i7-2715QE (Settings: RAM: 798 MHz (DDR3-1596) / CAS	144M - 8192M 8076M 08000000 CPU @ 2.10GHz / BC S : 11-11-11-28 /	CLK : 99 MHz Dual Channel
15:00:34 8076M 2828K e820	on off Std	8 0
Memory SPD Informations - Slot 0: 4096 MB PC3-12800 - Transce - Slot 1: 4096 MB PC3-12800 - Transce	nd Information TS51 nd Information TS51	12MSK64V6N 12MSK64V6N



Chapter 2: Compatibility test

2.1 With OS compatibility test

The test ensures mainstream windows OS can be installed and boot into OS properly.

Please see the test criteria as below (All the memory slot should add on memory):

- 1. Verify the install process can't have any problem or hangs;
- 2. Check and record Memory size under my computer-properties-General-computer information;
- 3. Check the Memory can't have any problem or system hangs when running Passmark (Select CPU&RAM&2D&3D), test program for 15 Minutes.

Test platform	UNO-2184		
os	Version	Memory size	Result
Windows XP	Windows XP professional with 32bit SP3(English)	3.41GB	Pass
Windows 7	Windows 7 Ultimate 32bit(English)	8.0GB	Pass
Windows 2008	Windows Server2008 32bit with SP2(English)	8.0GB	Pass

2.2 With motherboard compatibility test

The test ensures the memory can work properly with different framework and chipsets of Motherboard.

Please see the test criteria as below (Please select motherboard support of the max CPU for test):

- 1. Check Memory size and frequency can display correctly, and record the result as below list.
- 2. Verify the Memory can't have any problem when running memtest86+ v4.20 test program for 3 cycles (All the memory slot should add on memory).
- 3. Power on/off 10 times, the test must pass when socket combination as single channel and dual channel and full loading.

Memtest86+ v4.20 test result						
MB/SBC	CPU	Memory Size	Frequency	Result	Remark	
UNO-2184	Intel i7-2715QE 2.10GHz	8GB	1600	Pass		
AIMB-272	Intel i7-2710QE 2.10GHz	8GB	No display	Pass	BIOS can't display RAM information	
PCM-8506	Onboard N2800 1.86GHz	4GB	1067	Pass		
PCM-8206	Onboard D2700 1.86GHz	4GB	1067	Pass	Connect the bottom socket	



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	Socket function and combination test result					
MB/SBC	CPU	DIMM socket	Memory Size	Frequency	Result	Remark
		DIMM1	4GB	1600	Pass	
UNO-2184	Intel i7-2715QE 2.10GHz	DIMM2	4GB	1600	Pass	
		Full Loading	8GB	1600	Pass	
		DIMM1	4GB	No display	Pass	BIOS can't
AIMB-272	Intel i7-2710QE 2.10GHz	DIMM2	4GB	No display	Pass	display RAM
		Full Loading	8GB	No display	Pass	information
PCM-8506	Onboard N2800 1.86GHz	SODIMM	4GB	1067	Pass	
PCM-8206	Onboard D2700 1.86GHz	SODIMM	4GB	1067	Pass	Connect the bottom socket

2.3 With CPU compatibility test

The test ensures the Memory can work properly with different CPU of core/speed/ FSB.

Please see the test criteria as below (All the memory slot should add on memory):

- 1. Check Memory size and frequency can display correctly, and record the result as below list;
- 2. Check the Memory can't have any problem or system hangs when running Passmark(Select CPU&RAM&2D&3D), test program for 30 minutes;
- 3. Power on/off 10 times, the test must pass.

CPU	MB/SBC	Memory Size	Frequency	Result	Remark
Intel B810 1.60GHz	AIMB-272	8GB	No display	Pass	BIOS can't display RAM information



Chapter 3: Performance test

The test ensures the Memory performance can reach the average value. Record the benchmark score and compare the score with other product (All the memory slot should add on memory).

3.1 Sisoftware Sandra

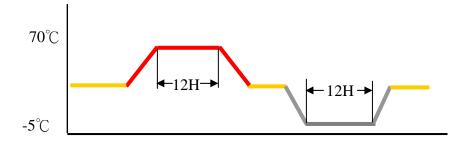
		Sisoft	ware Sandra	2011.SP4c ((17.77)		
MB/SBC	CPU	Memory Bandwidth-Int Buff'd (GB/s)	Memory Bandwidth Float Buff'd (GB/s)	Memory (Random Access) Latency (ns)	Memory Latency-Speed Factor	Result	Remark
UNO-2184	Intel i7-2715QE 2.10GHz	20.5	20.48	82.6	53.4	Pass	
AIMB-272	Intel i7-2710QE 2.10GHz	20.38	20.4	83.4	61.40	Pass	
PCM-8506	Onboard N2800 1.86GHz	4	3.34	142	86.70	Pass	
PCM-8206	Onboard D2700 1.86GHz	2	1.6	357	87.80	Pass	

Chapter 4: Reliability test

4.1 High/Low temperature test

The test ensures the memory can work properly in High/Low temperature of environment.

Test Environment: -5°C~70°C



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Test platform	AIMB-272			
os	Windows XP professional with 32bit SP3(English)			
Item	Pass Criteria R			
Power on/off	Power on/off 100 times, successful boot rate 100%;	Pass		
December Down in	Set CPU/2D/3D/Memory loading 100%; The result should be passed	Dono		
Passmark Burn_in	when running Burn_in V7.0 for 12 hours.	Pass		

4.2 Room temperature test

The test ensures after High/Low temperature test, the memory can work properly in room temperature.

Test platform	UNO-2184/PCM-8206/PCM-8506			
os	Windows XP professional with 32bit SP3(English)			
Item	Pass Criteria Result			
Power on/off	Power on/off 100 times, successful boot rate 100%;	Pass		
Passmark Burn_in	Set CPU/2D/3D/Memory loading 100%; The result should be passed when running Burn_in V7.0 for 12 hours.	Pass		