

96SD3-2G1600NN-AP

Test Report

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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

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.	Jier.liu

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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.

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, the top socket cannot boot up when using alone, and down to Frequency1067.
PCM-8204	Atom D525+ICH8M	Chipset limitation, down to Frequency800.
AIMB-258	Intel GM45 + ICH9M	Chipset limitation, down to Frequency800.

Product Information:

Advantech Part Number	96SD3-2G1600NN-AP
Manufacturer	Apacer
Module Part NO.	78.A2GCJ.AF00C
Transcend DB P/N	NA
PCB Part NO.	48.18220.090
IC Brand(chip model)	Hynix H5TQ2G83CFR
Memory Category	DDR3
Socket type	204Pin
Size	2GB
ECC&REG	NO
Bandwidth	12.8GB/sec
Speed Grade	1600Mbps
Max Frequency	800MHz
CAS Latency	CL11
Organization	256Mx64
Component Composition	256Mx8bit
Number of Rank	1
Power supply(VDD)	1.5V ± 0.075V
Operating Temperature	0°C-95°C
Dimension (W x H x D)	67.60x30x3.80(mm)
ROHS Status (Yes/No)	Yes

Photo:



Test Platform

MB/SBC	UNO-2184		
PCB version	A101-2	CPU	Intel i7-2715QE 2.10GHz
BIOS version	2184X022	DRAM	Apacer DDR3 1600 2GBX2 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	Apacer DDR3 1600 2GBX2 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	8206x003	DRAM	Apacer DDR3 1600 2GBX2 SODIMM
Core Chipset	Atom D2700+NM10	Backplane	NA
VGA Chipset	CPU integrated VGA Controller	Other	

MB/SBC	PCM-8204		
PCB version	A101-2	CPU	Onboard D525 1.80GHz
BIOS version	8204x003	DRAM	Apacer DDR3 1600 2GBX2 SODIMM
Core Chipset	Atom D525+ICH8M	Backplane	NA
VGA Chipset	D525 integrated	Other	

MB/SBC	AIMB-258		
PCB version	A101-4	CPU	Core™2 Duo T7300 2.00GHZ
BIOS version	258X1163	DRAM	Apacer DDR3 1600 2GBX2 SODIMM
Core Chipset	GM45 + ICH9M	Backplane	NA
VGA Chipset	Intel GM45 integrated	Other	

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

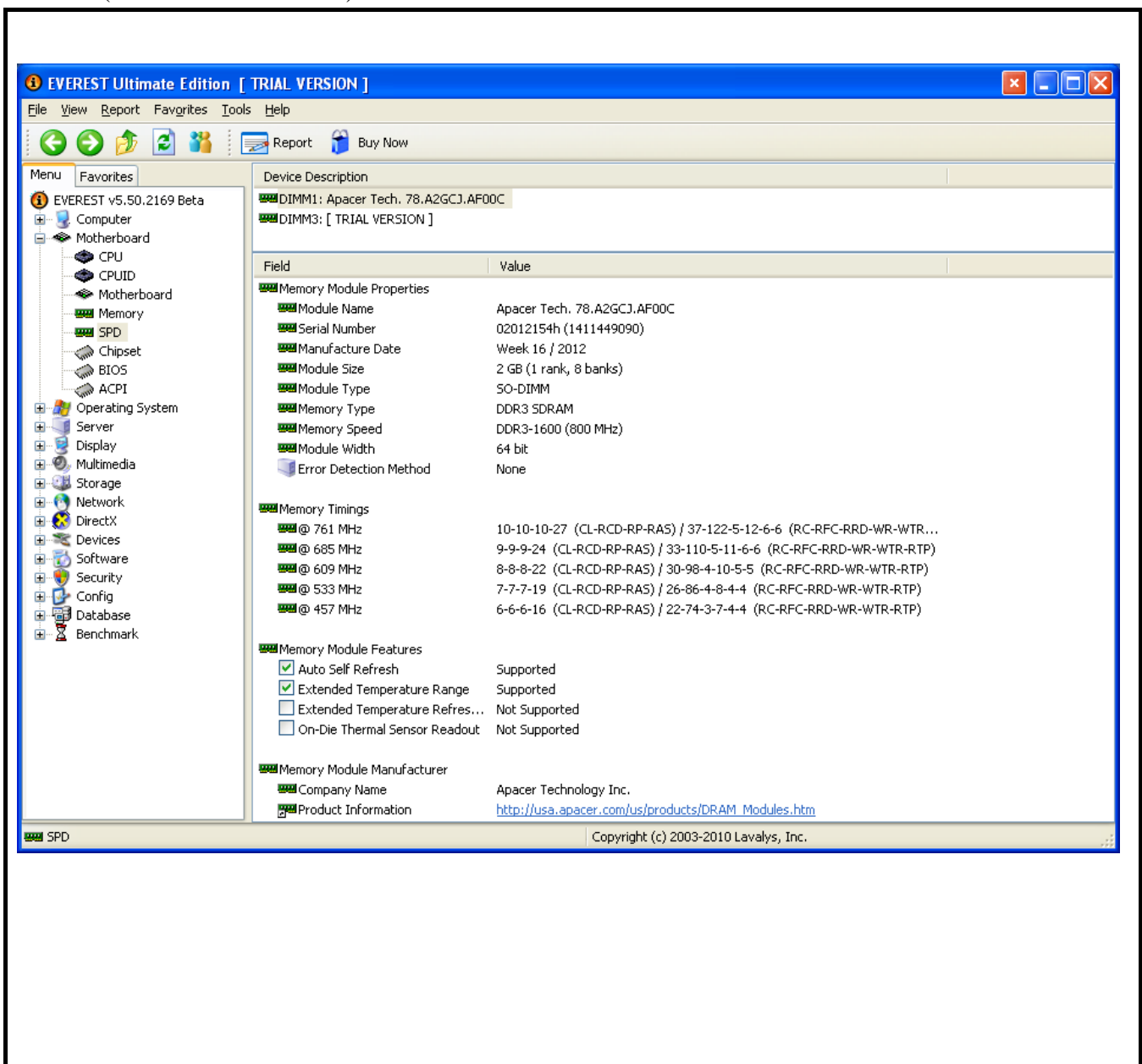
Test Item

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: AIMB-272):



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:

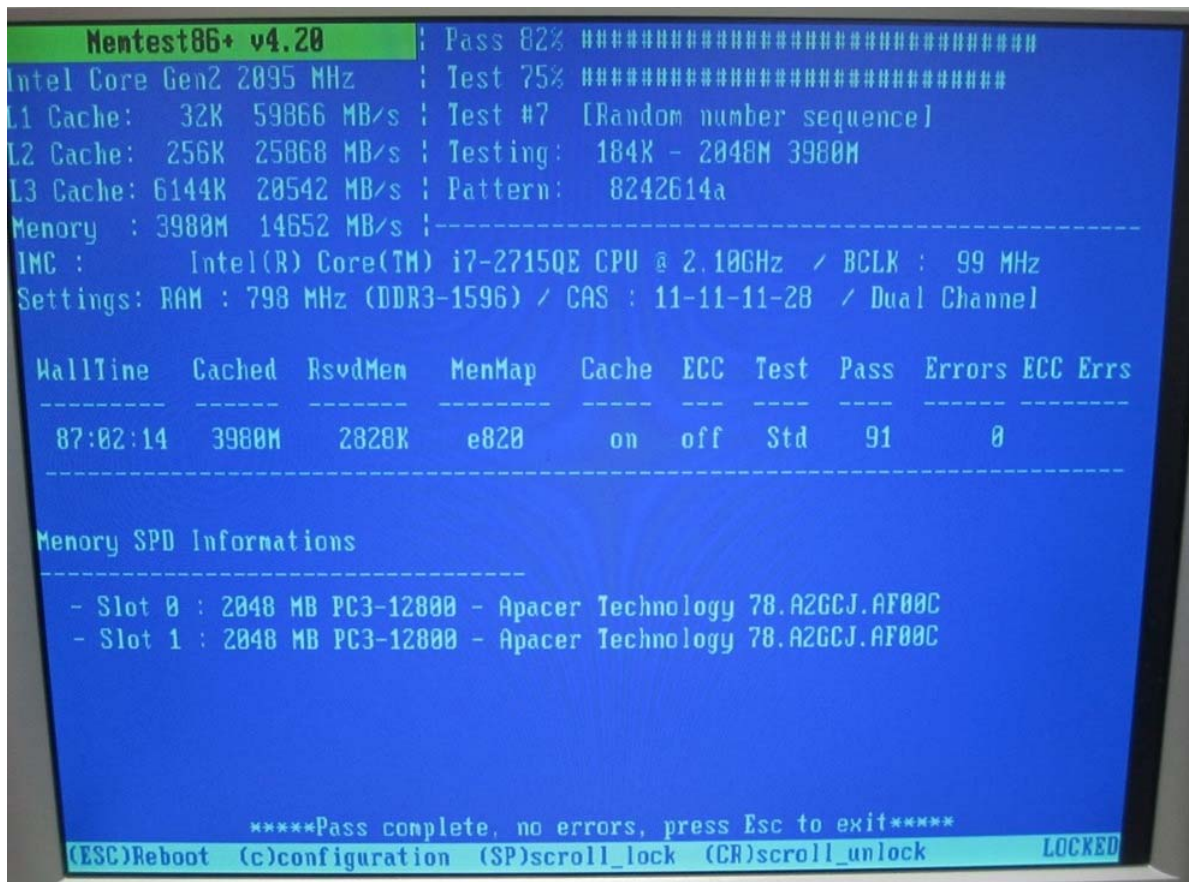
1. The Memory can boot up without any problem and power on/off 10 times, the test must be pass;
2. Check Memory size and frequency can display correctly and pass the self-test;
3. Verify the Memory can't have any problem when running memtest86+ v4.20 test program for 3 cycles.

And paste the photo of test result as below.

MB/SBC: UNO-2184

Test Item	Result	Remark
Boot up(power on/off) test	Pass	
POST test	Pass	
Memtest86+ V4.20	Pass	

Memtest86 test result(photo):



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	AIMB-272		
OS	Version	Memory size	Result
Windows XP	Windows XP professional with 32bit SP3(English)	3.41GB	Pass
Windows XP	Windows XP professional with 32bit SP3(English)	3.88GB	Pass
Windows 7	Windows 7 Ultimate 32bit(English)	4.0GB	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-8206	Onboard D2700 1.86GHz	4096MB	1067	Pass	Down to Frequency 1067
PCM-8204	Onboard D525 1.80GHz	4087MB	800	Pass	Down to Frequency 800,Less than actual size 9MB

AIMB-258	Intel T7300 2.00GHZ	4060096k+64MB	800	Pass	Down to Frequency 800, Less than actual size 68672k
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Socket function and combination test result						
MB/SBC	CPU	DIMM socket	Memory Size	Frequency	Result	Remark
UNO-2184	Intel i7-2715QE 2.10GHz	DIMM1	2048MB	1600	Pass	
		DIMM2	2048MB	1600	Pass	
		Full Loading	4096MB	1600	Pass	
AIMB-272	Intel i7-2710QE 2.10GHz	DIMM1	2GB	No display	Pass	BIOS can't display RAM information
		DIMM2	2GB	No display	Pass	
		Full Loading	4GB	No display	Pass	
PCM-8206	Onboard D2700 1.86GHz	Bottom SODIMM	2048MB	1067	Pass	Down to Frequency 1067
		Top SODIMM	Cannot boot up	NA	NA	Chipset Limitation, it cannot boot up.
		Full	4096MB	1067	Pass	Down to Frequency 1067
AIMB-258	Intel T7300 2.00GHZ	DIMM1	2028480k+64MB	800	Pass	Down to Frequency 800, Less than actual size 3136k
		DIMM2	2012096k+64MB	800	Pass	Down to Frequency 800, Less than actual size 19520k
		Full	4060096k+64MB	800	Pass	Down to Frequency 800, Less than actual size 68672k

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	4096MB	No display	Pass	BIOS can't display RAM information
Intel i5-2510QE 2.50GHz	AIMB-272	4096 MB	No display	Pass	

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

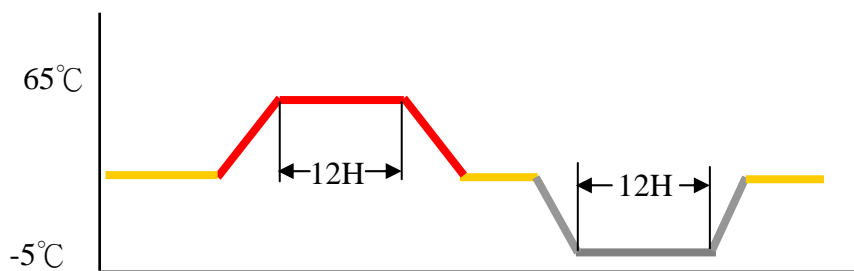
MB/SBC	CPU	Sisoftware Sandra2011.SP4c (17.77)				Result	Remark
		Memory Bandwidth-Int Buff'd (GB/s)	Memory Bandwidth Float Buff'd (GB/s)	Memory (Random Access) Latency (ms)	Memory Latency-Speed Factor		
UNO-2184	Intel i7-2715QE 2.10GHz	18.35	18.34	79.9	47.0	Pass	
AIMB-272	Intel i7-2710QE 2.10GHz	18.38	18.37	79.6	58.7	Pass	
PCM-8206	Onboard D2700 1.86GHz	2.14	1.8	270	92.40	Pass	
PCM-8204	Onboard D525 1.80GHz	3.62	3	151.5	90	Pass	
AIMB-258	Intel T7300 2.00GHZ	4.13	4.14	102	67.40	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~65°C



Test platform	AIMB-272	
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

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-8204/AIMB-258	
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