

96D3-2G1333ER-AP1

Test Report

Test Requestor	Jocy.lin	Job Title		Release Date	2012-08-10
Testing Engineer	Jeans. Zhou	Job Title	AKDC DQA Engineer	Revision	V1.0
Approved by	Sophie. Song	Job Title	AKDC DQA assistant manager	Release Status	Formal Release

Revision History:

Revision Date	Revision	Description	Creator
2012/8/10	1.0	First version released	Jeans.Zhou

Content

Test Result Definition:	4
Test Item List Summary	5
Product Information:	6
Test Platform	8
Test Software	8
Test Item	9
Chapter 1: Function test	9
1.1 Device Information confirm	9
1.2 Basic function test	10
Chapter 2: Compatibility test	11
2.1 With OS compatibility test	11
2.2 With motherboard compatibility test	11
Chapter 3: Performance test	12
3.1 Sisoftware Sandra	12
Chapter 4: Reliability test	13
4.1 Room temperature test	13

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

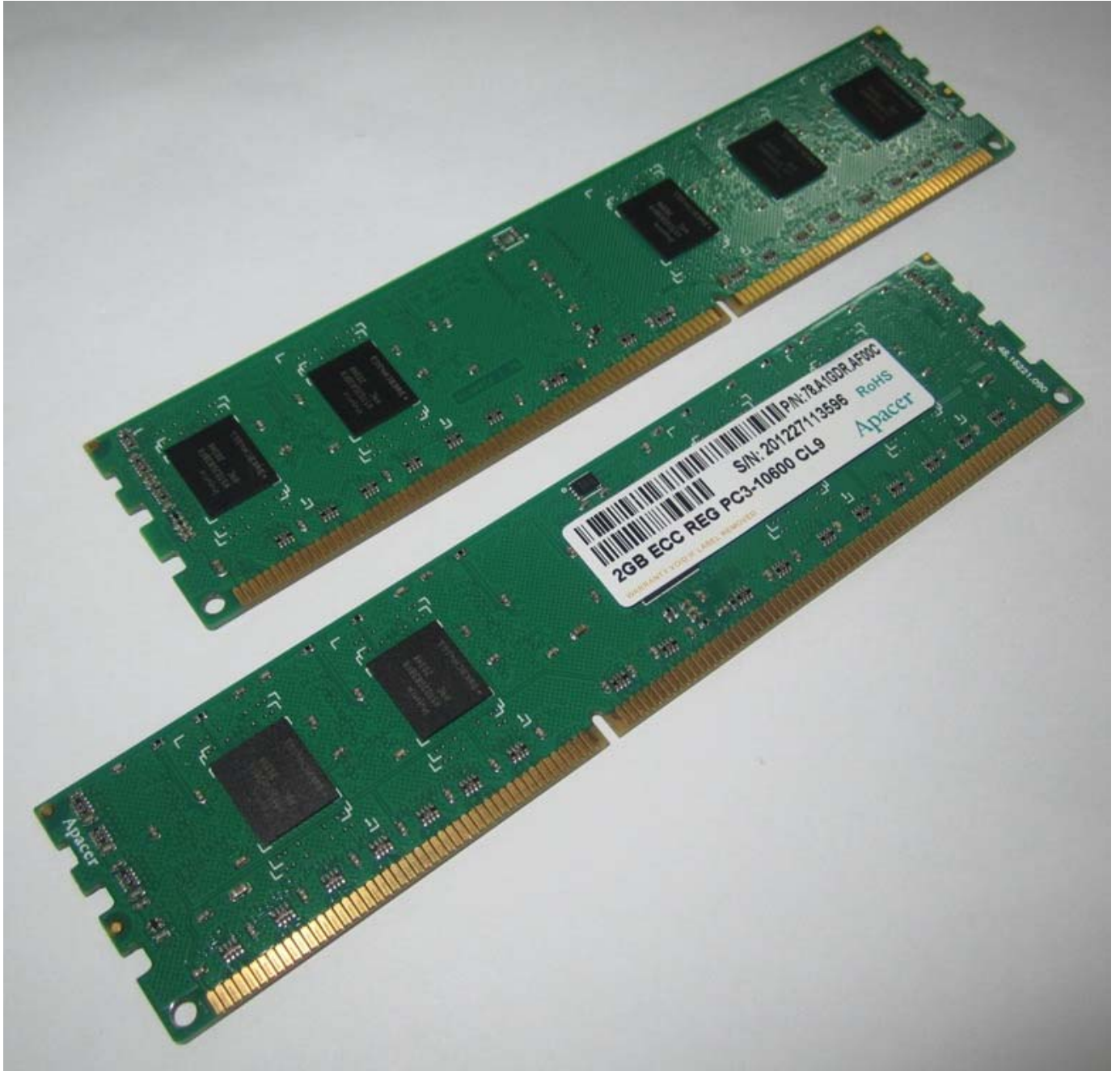
MB/SBC	Core Chipset	Remark
FWA-6500	Intel 5520+ICH10R	
FWA-6510	Intel C604 PCH	

Ps: All test only used 2pcs memory sample.

Product Information:

Advantech Part Number	96D3-2G1333ER-AP1
Manufacturer	Apacer
Module Part NO.	78.A1GDR.AF00C
PCB Part NO.	48.16221.090
IC Brand(chip model)	Hynix H5TQ2G838FRH9C
Memory Category	DDR3
Socket type	240Pin
Size	2G
ECC&REG	ECC®
Bandwidth	10.6GB/sec
Speed Grade	1333Mbps
Max Frequency	666MHz
CAS Latency	CL9
Organization	256M x 72-bit
Component Composition	256M x 8-bit*9EA
Number of Rank	1
Power supply(VDD)	1.5 ± 0.075V
Operating Temperature	0°C to 95°C
Dimension (W x H x D)	133.5x30.00x4.00(mm)
RoHS Status (Yes/No)	YES

Photo:




Test Platform

MB/SBC	FWA-6500		
PCB version	A102-1	CPU	Intel Xeon E5504 2.00GHZx2
BIOS version	6500V180	DRAM	Apacer DDR3 1333 DIMM 2GBx2
Core Chipset	Intel 5520+ICH10R	Backplane	NA
VGA Chipset	NVIDIA GT210	Other	

MB/SBC	FWA-6510		
PCB version	A102-1	CPU	Intel Xeon E5-2648L 1.80GHZx2
BIOS version	V1.10	DRAM	Apacer DDR3 1333 DIMM 2GBx2
Core Chipset	Intel C604 PCH	Backplane	NA
VGA Chipset	CPU integrated VGA Controller	Other	

Test Software

Utilities	Version / Description
Power On/Off (For Reliability test)	
Passmark Burn_In Test Pro (For Reliability test)	V7.0 build 1013
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: NA):

NO TEST:

Because FWA-6500/FWA-6510 can't read out the SPD information of memory by EVEREST Ultimate Edition or CPU-Z

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:

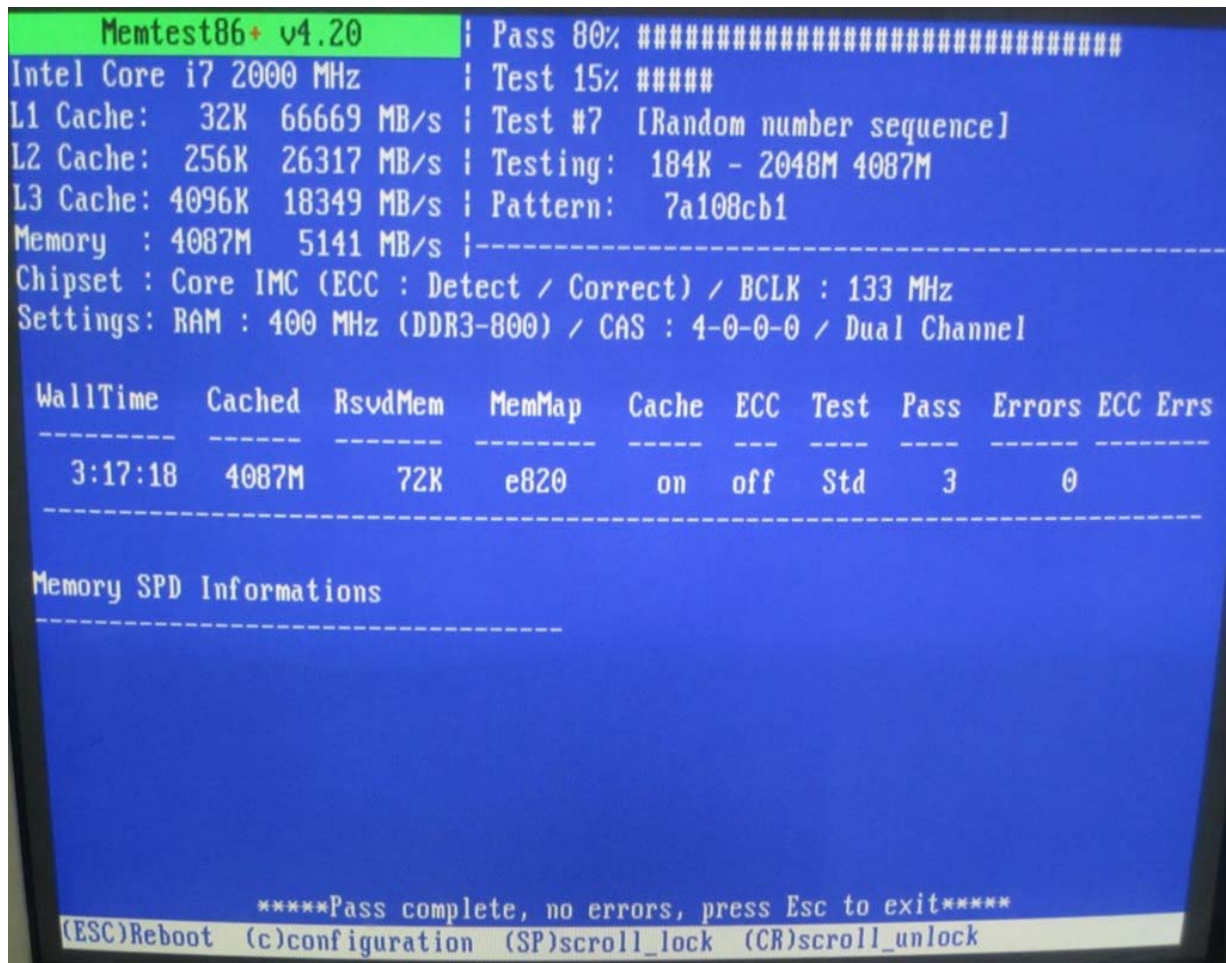
1. The Memory can boot up without any problem and power on/off 10 times, the test must be pass;
2. Check Memory size and frequency can display correctly and pass the self-test;
3. Verify the Memory can't have any problem when running memtest86+ v4.20 test program for 3 cycles.

And paste the photo of test result as below.

MB/SBC: FWA-6500

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	FWA-6500		
OS	Version	Memory size	Result
Windows XP	Windows XP professional edition 32bit with SP3	2.99GB	Pass
Windows 7	Windows 7 Ultimate 32bit	4GB	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
FWA-6500	Intel Xeon E5504	4088MB	BIOS No display	Pass	less than actual size 8M
FWA-6510	Intel Xeon E5-2648L	4096MB	1333	Pass	less than actual size 0M

Socket function and combination test result						
MB/SBC	CPU	DIMM socket	Memory Size	Frequency	Result	Remark
FWA-6500	Intel Xeon E5504	DIMM E1	2040MB	BIOS No display	Pass	less than actual size 8M
		DIMM F1	2040MB		Pass	less than actual size 8M
		DIMM E1+F1	4088MB		Pass	less than actual size 8M
FWA-6510	Intel Xeon E5-2648L	DIMM E1	2048MB	1333	Pass	less than actual size 0M
		DIMM H1	2048MB	1333	Pass	less than actual size 0M
		DIMM E1+H1	4096MB	1333	Pass	less than actual size 0M

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 (ns)	Memory Latency-Speed Factor		
FWA-6500	Intel Xeon E5504	5.41	5.58	266.3	129.6	Pass	
FWA-6510	Intel Xeon E5-2648L15.	15.56	15.54	93.1	75.3	Pass	

Chapter 4: Reliability test

4.1 Room temperature test

The memory can work properly in room temperature.

Test platform	FWA-6500/FWA-6510	
OS	Windows 7 Ultimate 32bit	
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. Ps:FWA-6510 running Burn_in V7.0 just set CPU/Memory loading 100%	Pass