

96SD2-2G800NN-AP2

Test Report

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Revision History:

Revision Date	Revision	Description	Creator
2011/08/17	1.0	First version released	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

Motherboard or CPU card compatibility test result

MB/SBC	Core Chipset	Result	Remark
PCI-7020	945GC+ICH7	Pass	
PCA-6782N	Atom N450+ICH8M	Pass	
NAMB-3305	Atom D510+ICH8M	Pass	
PCM-8200	945GME+ICH7M	Pass	
PCM-9362	Atom D510+ICH8M	Pass	
PCE-3132	945 GME+ICH7M-DH	Pass	

1. Product Information:

Advantech Part Number	96SD2-2G800NN-AP2
Manufacturer	Apacer
Module Part NO.	78.A2G86.405
PCB Part NO.	48.18194.095
IC Brand(chip model)	SEC 201 BCF7 K4T1G084QF
Memory Category	DDR2
Socket type	200PIN
Size	2GB
ECC&REG	No ECC®
Bandwidth	6.4GB/sec
Speed Grade	800Mbps
Max Frequency	400MHz
CAS Latency	CL6
Organization	256Mx64
Component Composition	128Mx8*16EA
Number of Rank	2
Power supply(VDD)	1.8V± 0.1V
Operating Temperature	0°C ≦ TC ≦ 85°C
Dimension (W x H x D)	67.6x30x3.8(mm)
RoHS Status (Yes/No)	YES

Photo:



2. Test Platform

MB/SBC	PCI-7020		
PCB version	A101-3	CPU	Intel Core2 Duo E7500 (2.930GHZ)
BIOS version	020X1131	DRAM	Apacer SOD DDR2 800 1GB
Core Chipset	945GC+ICH7	Backplane	PCA-6105P5
VGA Chipset	Chipset integrated	Other	

MB/SBC	PCA-6782N		
PCB version	A101-2	CPU	Onboard Intel Pineview-M 1.66GHz
BIOS version	V1.10	DRAM	Apacer SOD DDR2 800 1GB
Core Chipset	Atom N450+ICH8M	Backplane	PCA-6016-B
VGA Chipset	Chipset integrated	Other	


MB/SBC	NAMB-3305		
PCB version	A101-2	CPU	Onboard Intel Pineview-M 1.66GHz
BIOS version	F1.11	DRAM	Apacer SOD DDR2 800 1GB
Core Chipset	Atom D510+ICH8M	Backplane	NA
VGA Chipset	Chipset integrated	Other	

MB/SBC	PCM-8200		
PCB version	A201-2	CPU	Core™2 Duo Mobile T7400 2.16GHz
BIOS version	J1.11	DRAM	Apacer SOD DDR2 800 1GB
Core Chipset	945GME+ICH7M	Backplane	NA
VGA Chipset	Chipset integrated	Other	

MB/SBC	PCM-9362		
PCB version	A101-2	CPU	Onboard Intel Pineview-M 1.66GHz
BIOS version	362DX015	DRAM	Apacer SOD DDR2 800 1GB
Core Chipset	Atom D510+ICH8M	Backplane	NA
VGA Chipset	Chipset integrated	Other	

MB/SBC	PCE-3132		
PCB version	A101-3	CPU	Core™2 Duo Mobile T7400 2.16GHz
BIOS version	132X1113	DRAM	Apacer SOD DDR2 800 1GB
Core Chipset	945 GME+ICH7M-DH	Backplane	PCE-3B06-00
VGA Chipset	Chipset integrated	Other	

3. Test Software

Utilities	Version / Description
Power On/Off (For Reliability test)	
Passmark BurnIn Test Pro (For Reliability test)	V7.0 build 1005
MemTest86+ (For Function test)	V4.20
EVEREST Ultimate Edition	V5.0
Sisoft Sandra2011.SP4C(for Performance test)	V17.77
PCMark05(for Performance test)	V1.20

4. Test Item

4.1 Function test

4.1.1 Socket combination and Power on/off test

Pass Criteria: Power on/off 10 times, successful boot rate 100% when memory in different socket combination as below, then record memory size and frequency information on the boot screen display.

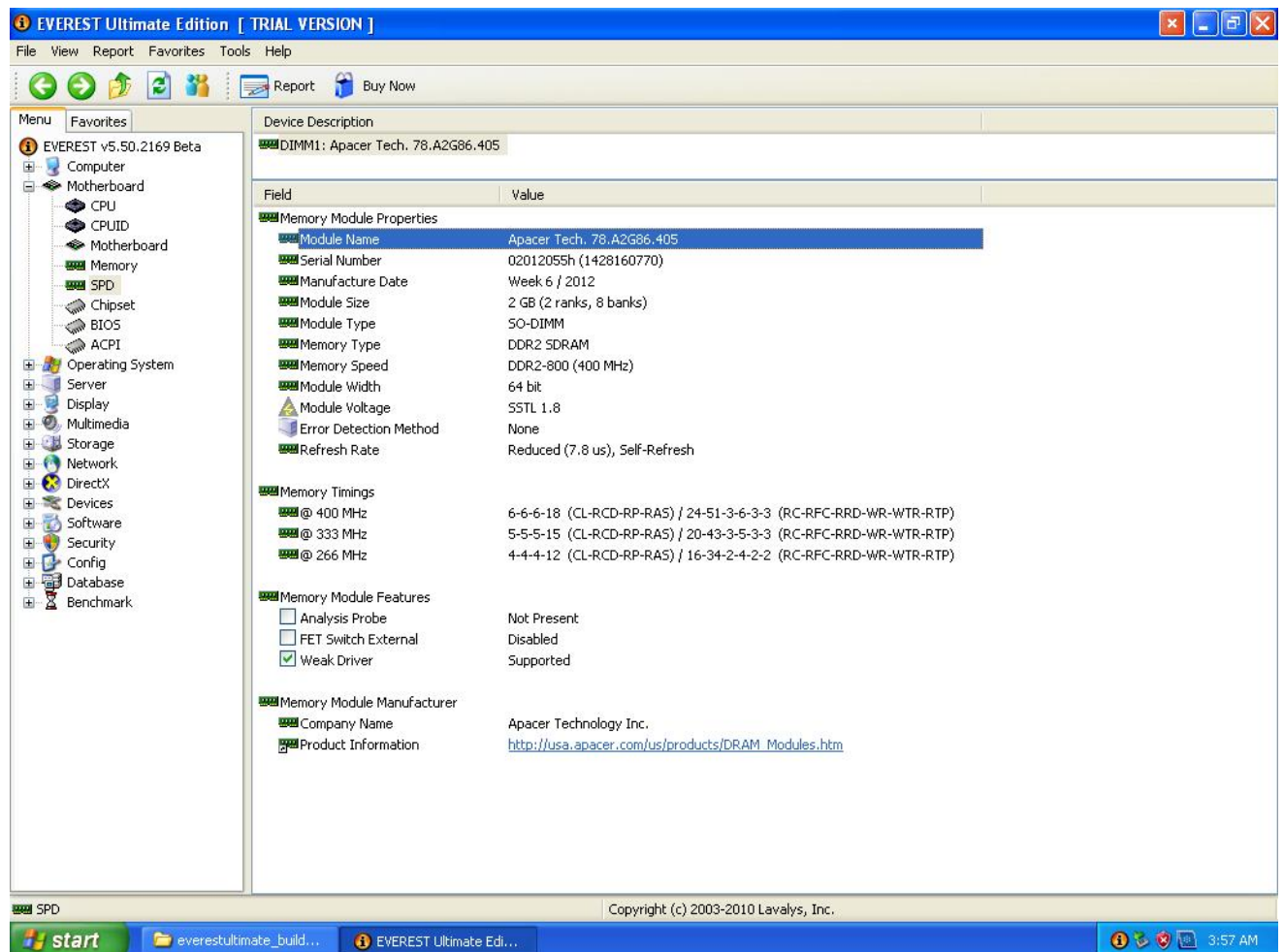
MB/SBC	CPU	Socket	Remark	Result
PCI-7020	Intel Core2 Duo E7500 (2.930GHZ)	DIMM A	Frequency:667,Size: 2087872K+8M,less than actual size 1088k.	Pass
		DIMM B	Frequency:667,Size: 2087872K+8M,less than actual size 1088k.	Pass
		FULL	Frequency:667,Size: 3398592K+8M,less than actual size 787520k.	Pass
PCA-6782N	Onboard Pineview-M 1.66GHz	FULL	Frequency:667,Size:2039M,less than actual size 9M.	Pass
NAMB-3305	Onboard Pineview-M 1.66GHz	DIMM A	Frequency:800,Size:2039M,less than actual size 9M.	Pass
		DIMM B	Frequency:800,Size:2039M,less than actual size 9M.	Pass
		FULL	Frequency:800,Size:4087M,less than actual size 9M.	Pass
PCM-8200	Core™2 Duo T7400 2.16GHz	DIMM A	requency:667,Size: 2087872K+8M,less than actual size 1088k.	Pass
		DIMM B	requency:667,Size: 2087872K+8M,less than actual size 1088k.	Pass
		FULL	Frequency:667,Size:3136448K+8M,less than actual size 1049664K.	Pass

PCM-9362	Onboard Pineview-M 1.66GHz	FULL	Frequency:667,Size:2046M,less than actual size 2M.	Pass
PCE-3132	Core™2 Duo T7400 2.16GHz	DIMM A	Frequency:667,Size: 2087872K+8M,less than actual size 1088k.	Pass
		DIMM B	Frequency:667,Size: 2087872K+8M,less than actual size 1088k.	Pass
		FULL	Frequency:667,Size: 3398592K+8M,less than actual size 787520k.	Pass

4.1.2 EVEREST Ultimate Edition

Pass Criteria: EVEREST detect the correct Memory information.

Picture:



4.1.3 MemTest86+ test

Pass Criteria: MemTest86+ V4.20 should show the correct Memory size and Run 3 Cycles No error.

(note: Memory must be full loading)

MB/SBC	CPU	Remark	Result
PCI-7020	Intel Core2 Duo E7500 (2.93GHZ) FSB:1066	Speed:667;Size: 3398592K+8M.	Pass
PCA-6782N	Onboard Pineview-M 1.66GHz	Speed:667;Size:2039M.	Pass
NAMB-3305	Onboard Pineview-M 1.66GHz	Speed:800;Size:4087M.	Pass
PCM-8200	Core™2 Duo Mobile T7400 2.16GHz	Speed:667;Size: 3136448K+8M	Pass
PCM-9362	Onboard Pineview-M 1.66GHz	Speed:667;Size:2046M.	Pass
PCE-3132	Core™2 Duo Mobile T7400 2.16GHz	Speed:667;Size: 3398592K+8M	Pass

4.1.4 OS installation

Pass Criteria: Windows OS can be installed and boot into OS properly.

MB&SBC: PCM-9362

OS	Version	Result
Windows XP	Windows XP professional edition 32bit with SP3	Pass
Windows 7	Windows 7 Ultimate 32bit	Pass

4.2 CPU compatibility test

Pass Criteria: Set CPU/2D/3D/Memory loading 100%,run Burn_in V6.0 for 3H ,and the result should be passed when memory in single channel or dual channel.

(note: Select the CPU must be include different core and FSB.)

MB/SBC	CPU	In Socket	Remark	Result
PCI-7020	Intel Core2 Duo E7500 (2.93GHZ)FSB:1066	Full	Speed:667;OS:WIN7	Pass
	Celeron D 352 (3.2GHZ)FSB:533	Full	Speed:533;OS:WIN7	Pass
PCA-6782N	Onboard Intel Atom N450 1.66GHz	Full	Speed:667;OS:WIN7	Pass

NAMB-3305	Onboard Pineview-M 1.66GHz	Full	Speed:800;OS:WIN7	Pass
PCM-8200	Core™2 Duo Mobile T7400 2.16GHZFSB:667	Full	Speed:667;OS:WIN7	Pass
	Core Solo CeleronM 440 1.86GHZFSB:533	Full	Speed:533;OS:WIN7	Pass
PCM-9362	Onboard Intel Pineview-M 1.66GHz	Full	Speed:667;OS:WINXP	Pass
PCE-3132	Intel Core2 Duo Mobile T7400(2.16GHZ)FSB:667	Full	Speed:667;OS:WIN7	Pass
	Core Solo Intel Celeron M 530(1.73GHZ)FSB:533	DIMM A	Speed:533;OS:WIN7	Pass

4.3 Performance test

4.3.1 Sisoftware Sandra

Pass Criteria: Run software “Sisoftware Sandra 2011”, Recording the benchmark score and compare the score with other product. The Memory performance can reach the average value.

(note: The CPU must be Select Max core with Max FSB.)

MB/SBC	Sisoftware Sandra2011.SP4C (17.77)			
	Memory Bandwidth-Int Buff'd (GB/s)	Memory Bandwidth Float Buff'd (GB/s)	Memory (Random Access) Latency (ns)	Memory Latency-Speed Factor
PCI-7020	4.6	4.54	97.2	94.3
PCA-6782D	3	2.63	178.3	95.9
NAMB-3305	3.14	2.67	183.4	91.4
PCM-8200	3.54	3.58	115.3	82.4
PCM-9362	3.18	2.72	166.4	91.5
PCE-3132	3.58	3.55	115.7	82.5

4.3.2 PCMark05

Pass Criteria: Run software “PCMark05 V1.20”, Recording the benchmark score and compare the score with other product. The Memory performance can reach the average value.

(note: The CPU must be Select Max core with Max FSB.)

MB/SBC	PCMark05 V1.20
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	Memory score	Item	Memory read (MB/S)	Memory write (MB/S)	Memory copy (MB/S)	Memory latency-Random (Maccesses/s)
PCI-7020	5503	16MB	5117.16	5239.272	4424.168	10.771
		8MB	5376.851	5275.345	4408.726	10.771
		192KB	19051.092	17452.002	17463.756	179.62
		4KB	44003.434	42780.434	44031.801	978.437
PCA-6782N	2597	16MB	3807.247	2870.302	3322.551	7.267
		8MB	3795.55	2780.564	3319.323	7.631
		192KB	5007.023	7960.567	3924.509	82.998
		4KB	13819.217	13839.676	8788.082	554.542
NAMB-3305	2615	16MB	3921.98	2856.3	3346.342	7.650
		8MB	3906.106	2874.44	3343.077	7.846
		192KB	5044.147	7853.98	3801.393	83.205
		4KB	13920.786	13956.257	8575.152	555.929
PCM-8200	4266	16MB	4513.604	3076.306	3494.549	9.471
		8MB	5409.469	3047.699	3568.196	11.050
		192KB	13812.939	13531.518	12972.132	141.522
		4KB	32527.248	31597.656	32514.795	722.723
PCM-9362	2555	16MB	3755.929	2893.134	3372.81	6.471
		8MB	3802.283	2894.008	3372.233	7.159
		192KB	5033.404	6919.257	3957.38	81.157
		4KB	13924.241	13949.057	8960.683	552.978
PCE-3132	4259	16MB	4545.246	3070.39	3476.62	9.471
		8MB	5343.23	3038.014	3542.060	11.050
		192KB	13856.037	13522.486	12952.183	141.519
		4KB	32497.746	31518.377	32506.662	722.71

4.4 Reliability test

4.4.1 Room temperature

MB/SBC:PCA-6782N/NAMB-3305/PCM-8200

OS: Windows 7 Ultimate 32bit

(Note: The CPU must be Select Max core with Max FSB,and Memory Full Loading.)

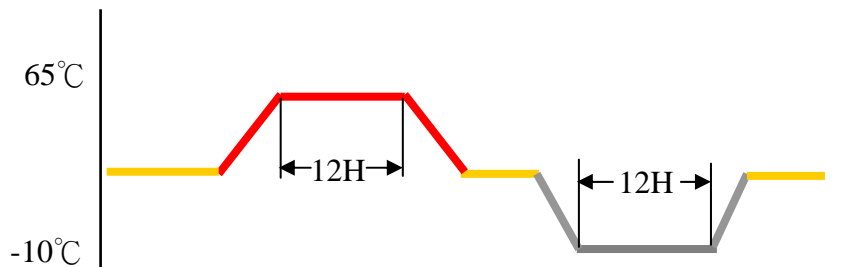
Item	Pass Criteria	Result
Power on/off	Power on/off 100 times, successful boot rate 100%;	Pass
Burn_inV6.0	Set CPU/2D/3D/Memory loading 100%; The result should be passed when running Burn_in V6.0 for 12 hours.	Pass

4.4.2 High/Low temperature

MB/SBC:PCM-9362(-10°C)/PCI-7020(65°C)

OS: Windows XP professional edition 64bit with SP2

Test Environment:-10°C~65°C



(Note: The CPU must be Select Max core with Max FSB,and Memory Full Loading.)

Item	Pass Criteria	Result
Power on/off	Power on/off 100 times, successful boot rate 100%;	Pass
Burn_inV6.0	Set CPU/2D/3D/Memory loading 100%; The result should be passed when running Burn_in V6.0 for 12 hours.	Pass

5. Appendix