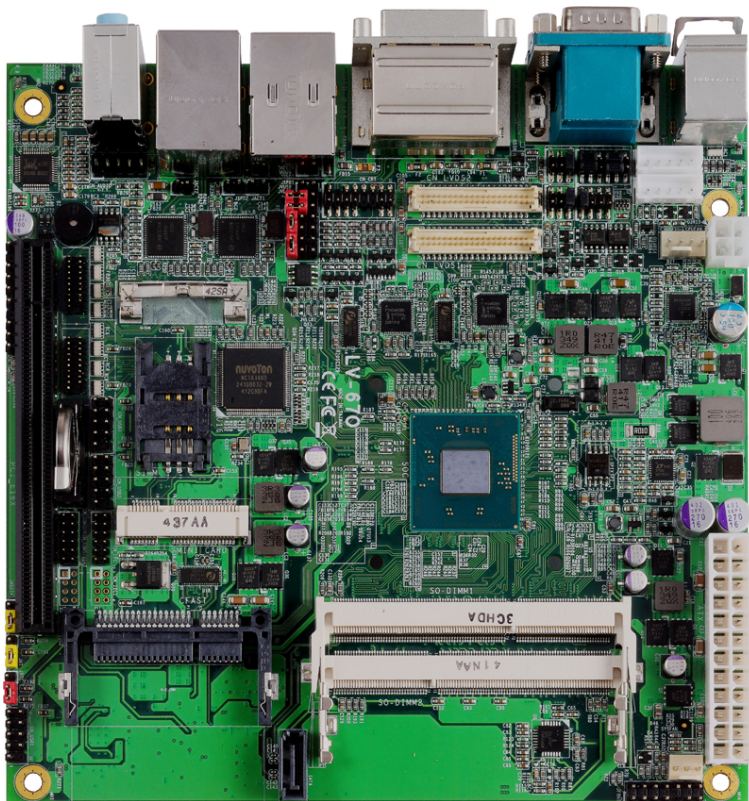


Product Test Report



Product Name	LV-670
Product Version	B
Issued Date	2021.09.28
Report Edition	1.2
BIOS Version	1.01
Testing Engineer	RICK & Wu DeWei
Check Engineer	Wu DeWei

REVISION HISTORY			
DATE	REVISION NO.	PAGE	DESCRIPTONS
2014.10.30	Ver. 1.0	54	Initial Release
2014.11.20	Ver. 1.1	56	Add memory , power and mini card test, shorten the graphics.
2015.01.27	Ver. 1.2	56	Modify Minicard support.
2021.09.28	Ver. 1.3	56	Add support MPX-4232

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1. Function test

1.1 Hardware function

Base Function Test

Item	Description	Result
1	Power Button	PASS
2	Reset	PASS
3	Power LED	PASS
4	HDD LED	PASS
5	Display port	PASS
6	DVI	PASS
7	LVDS 1 / 2	PASS
8	CN_CRT	PASS
9	PS/2	PASS
10	SATA2 1 / 2	PASS
11	LAN 1 / 2	PASS
12	DDR3L 1 / 2 (SO-DIMM 1 must be input)	PASS
13	USB2.0 1 / 2 / 3 / 4 / 5	PASS
14	USB3.0	PASS
15	COM port 1 / 2 / 3 / 4 / 5 / 6	PASS
16	CPU FAN	PASS
17	SYS FAN	PASS
18	AUDIO	PASS
19	CN_AUDIO	PASS
20	CFAST (Optional)	PASS
21	PCIE 1x	PASS
22	MINI_CARD	PASS

Jumper

Item	Description	Result
1	JRTC	PASS
2	JCSEL1	PASS
3	JCSEL2	PASS
4	JVLCD1	PASS
5	JVLCD2	PASS
6	JAT (1,2=>AT)	PASS
7	JP1	PASS
8	JP2	PASS
9	JMSATA (mSATA & mPCI-E) (1,2=>mSATA)	PASS
10	JACT1	PASS
11	JACT2	PASS
12	JSPD1 (10 / 100Mbps / 1Gbps)	PASS
13	JSPD2 (10 / 100Mbps / 1Gbps)	PASS
14	JVUSB	PASS

1.2 BIOS function

Item	Description	Result	Remark
1	Press 'Del' to run Setup Utility	PASS	
2	Ctrl-Alt-Del – Soft-Reboot	PASS	
3	Date & Time Setting	PASS	
4	NumLock	PASS	
5	Quick Boot	PASS	
6	Diagnostic Splash Screen	PASS	
7	Diagnostic Summary Screen	PASS	
8	BIOS Level USB	PASS	
9	Console Redirection	PASS	Only DOS

10	UEFI Boot	PASS	
11	Legacy Boot	PASS	
12	View Error Manager Log	PASS	
13	Clear Error Manager Log	PASS	
14	Select Language	PASS	
15	Chipset SATA	PASS	
16	Chipset SATA Mode	PASS	
17	UEFI Boot	PASS	
18	Legacy Boot	PASS	
19	View Error Manager Log	PASS	
20	Clear Error Manager Log	PASS	
21	Interface Combination (IDE & AHCI)	PASS	
22	BIA	PASS	
23	LAN PXE	PASS	
24	IGD-Boot Type	PASS	
25	IGD-LCD Panel type	PASS	
26	Panel Color Depth	PASS	
27	USB Per-Port Disabled Control	PASS	
28	Audio Controller	PASS	
29	Serial Port	PASS	
30	Watch Dog Timer	PASS	
31	Power Loss	PASS	
32	Power On By RTC Alarm	PASS	
33	CPU Smart Fan Control	PASS	
34	Set Supervisor Password	PASS	
35	Set User Password	PASS	
36	Authenticate User on Boot	PASS	

37	Set HDD User Password	PASS	
38	ADP-TPM	PASS	CN_LPC
39	Wake up By PS/2 Mouse	PASS	
40	VCORE, 3.3V, 5V, 12V, VBAT	PASS	
41	Exit Saving Changes	PASS	
42	OS Install complete	PASS	

1.3 Driver

CD Edition : DIPCi

1. Windows 8 32-bit Driver Test

Item	Description	Result	Version
1	Chipset Driver	PASS	10.0
2	VGA Driver	PASS	36.15.0.1073
3	LAN Driver	PASS	12.11.97.0
4	Audio Driver	PASS	6.0.1.6914

2. Windows 8 64-bit Driver Test

Item	Description	Result	Version
1	Chipset Driver	PASS	10.0
2	VGA Driver	PASS	10.18.10.3621
3	LAN Driver	PASS	12.11.97.0
4	Audio Driver	PASS	6.0.1.6914

3. Windows 7 32-bit Driver Test

Item	Description	Result	Version
1	Chipset Driver	PASS	10.0
2	VGA Driver	PASS	36.15.0.1073
3	LAN Driver	PASS	12.11.97.0
4	Audio Driver	PASS	6.0.1.6914

4. Windows 7 64-bit Driver Test

Item	Description	Result	Version
1	Chipset Driver	PASS	10.0
2	VGA Driver	PASS	10.18.10.3621
3	LAN Driver	PASS	12.11.97.0
4	Audio Driver	PASS	6.0.1.6914

5. Windows Server 2008 R2 64-bit driver test

Item	Description	Result	Version
1	Chipset Driver	PASS	10.0
2	VGA Driver	PASS	10.18.10.3621
3	LAN Driver	PASS	12.11.97.0
4	Audio Driver	PASS	6.0.1.6914

6. Windows Server 2008 32-bit driver test

Item	Description	Result	Version
1	Chipset Driver	NONE	NO SUPPLY
2	VGA Driver	NONE	NO SUPPLY
3	Audio Driver	NONE	NO SUPPLY
4	LAN Driver	PASS	6.0.1.6914

7. Windows Vista 32/64-bit driver test

Item	Description	Result	Version
1	Chipset Driver	NONE	NO SUPPLY
2	VGA Driver	NONE	NO SUPPLY
3	Audio Driver	NONE	NO SUPPLY
4	LAN Driver	PASS	6.0.1.6914

2. Compatibility test

2.1 CPU Test

Test environment: OS Windows 7

Test program : PC MARK 2005

Spec	CPU Speed	Family	Processor	MAX TDP	Smart Cache	Result
SR1SC	2 GHz	Celeron	J1900	10W	2 MB	PASS
SR1W3	1.83 GHz	Celeron	N2930	7.5W	2 MB	PASS
SR1RE	1.91 GHz	Atom	E3845	10W	2 MB	PASS

2.2 Operation System Test

Item	Description	Result	Remark
1	Windows Server 2012 64-bit	PASS	
2	Windows 8.1 Enterprise 32/64-bit	PASS	
3	Windows 8 32/64-bit	PASS	
4	Windows 7 32/64-bit	PASS	
5	Windows Server 2008 R2 64-bit	PASS	
6	Windows Server 2008 32-bit	PASS	
7	Windows Vista 32/64-bit	PASS	
8	Windows XP 32/64-bit	NONE	NO SUPPLY
9	Windows Server 2003 32/64bit	NONE	NO SUPPLY
10	Ubuntu 12.04 LST	PASS	AHCI ONLY J & N

2.3 Memory Test

Test environment: OS Windows 7

Test program : PC MARK 2005

Manufacturer	Chip	Frequency	Capacity Mbytes	Result
DSL	SEC K4B4G0846D	DDR3L 1600	8 GB	PASS
DSL	SEC K4B4G0846D	DDR3L 1600	4 GB	PASS
DSL	SEC K4B4G0846D	DDR3L 1600	2 GB	PASS
Kingston KVR16LS11/8	Micron 4GE77 D9GBJ	DDR3L 1600	8 GB	PASS
Kingston KVR16LS11/4	Kingston D512BEC4BPGG8U	DDR3L 1600	4 GB	PASS
Kingston KVR16LS11/4	NANGA NT5CC512M8BN-DI	DDR3L 1600	4 GB	PASS

2.4 Display port Graphic Quality Test

Test environment: OS Windows 7 32 / 64-bit

Driver version : 36.15.0.1073 / 10.18.10.3621

Resolution	Color	Result	Remark
800*600	16 / 32bit	PASS	
1024*768	16 / 32bit	PASS	
1280*720	16 / 32bit	PASS	
1280*800	16 / 32bit	PASS	
1280*1024	16 / 32bit	PASS	
1600*900	16 / 32bit	PASS	

1680*1050	16 / 32bit	PASS	
1920*1080	16 / 32bit	PASS	

2.5 CRT Graphic Quality Test

Test environment:

OS Windows 7 32 / 64-bit

Driver version : 36.15.0.1073 / 10.18.10.3621

Resolution	Color	Result	Remark
800*600	16 / 32bit	PASS	
1024*768	16 / 32bit	PASS	
1152*864	16 / 32bit	PASS	
1280*600	16 / 32bit	PASS	
1280*720	16 / 32bit	PASS	
1280*768	16 / 32bit	PASS	
1280*800	16 / 32bit	PASS	
1280*960	16 / 32bit	PASS	
1280*1024	16 / 32bit	PASS	
1360*768	16 / 32bit	PASS	
1366*768	16 / 32bit	PASS	
1440*900	16 / 32bit	PASS	
1920*1080	16 / 32bit	PASS	

2.6 Audio

Test environment:

OS Windows 8 32 & 64-bit

Driver version : 6.0.1.6914

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	

3	LINE-IN	PASS	
---	---------	------	--

OS Windows 7 32 & 64-bit

Driver version : 6.0.1.6914

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	LINE-IN	PASS	

OS Windows Server 2008 R2 64-bit

Driver version : 6.0.1.6914

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	LINE-IN	PASS	

OS Windows Server 2008 32-bit

Driver version : 6.0.1.6914

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	LINE-IN	PASS	

OS Windows Vista 32 & 64-bit

Driver version : 6.0.1.6914

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	LINE-IN	PASS	

2.7 HDD Test

Test environment: OS Windows 7

Model	Interface	Capacity	Size Detect	Data Transfer
Western Digital WD10EALX-009BA0	SATA	1.0 TB	PASS	PASS
Western Digital WD5002AALX-00J37A0	SATA	500 GB	PASS	PASS
Western Digital WD5000AAKS-00V1A0	SATA	500 GB	PASS	PASS
Western Digital WD3200BEKT-00F3T0	SATA	320 GB	PASS	PASS
Western Digital WD3200BPVT-00JJ5T0	SATA	320 GB	PASS	PASS
Western Digital WD2500AAKS-00VYA0	SATA	250 GB	PASS	PASS
Intel SSDSC2CT060A3	SSD	60 GB	PASS	PASS
BUFFALO BUF-HP-HXU3(B)	USB 3.0	1 TB	PASS	PASS
Kingston DDTHX30	USB 3.0	64 GB	PASS	PASS
Silicon Power UFD 2.0	USB	4 GB	PASS	PASS
TDK LoR Trans-It Drive	USB	4 GB	PASS	PASS

2.8 DVD-ROM Test

Test environment: OS Windows 7

Model	Interface	Detect	Data Transfer	Play DVD
PIONEER DVR-S19LBK	SATA	PASS	PASS	PASS
ASUS DRW-1814BLT	SATA	PASS	PASS	PASS
LITE-ON iHES312	SATA	PASS	PASS	PASS
LITEON eTAU108	USB	PASS	PASS	PASS
PIONEER DVR-XD11T	USB	PASS	PASS	PASS

2.9 USB device Test

1. MS-DOS

Item	Result	Remark
External USB Keyboard Test	PASS	
External USB Mouse Test	PASS	
Hot plugging test	PASS	
CD ROM	PASS	
USB Mass storage	PASS	

2. Windows Server Vista 32&64-bit

Item	Result	Remark
External USB Keyboard Test	PASS	
External USB Mouse Test	PASS	
Hot plugging test	PASS	

CD ROM	PASS	
USB Mass storage	PASS	

3. Windows Server 2008 32-bit

Item	Result	Remark
External USB Keyboard Test	PASS	
External USB Mouse Test	PASS	
Hot plugging test	PASS	
CD ROM	PASS	
USB Mass storage	PASS	

4. Windows Server 2008 R2 64-bit

Item	Result	Remark
External USB Keyboard Test	PASS	
External USB Mouse Test	PASS	
Hot plugging test	PASS	
CD ROM	PASS	
USB Mass storage	PASS	

5. Windows 7 32& 64-bit

Item	Result	Remark
External USB Keyboard Test	PASS	
External USB Mouse Test	PASS	
Hot plugging test	PASS	
CD ROM	PASS	
USB Mass storage	PASS	

6. Windows 8 32& 64-bit

Item	Result	Remark
External USB Keyboard Test	PASS	

External USB Mouse Test	PASS	
Hot plugging test	PASS	
CD ROM	PASS	
USB Mass storage	PASS	

7. Ubuntu 12.04 LST

Item	Result	Remark
External USB Keyboard Test	PASS	
External USB Mouse Test	PASS	
Hot plugging test	PASS	
CD ROM	PASS	
USB Mass storage	PASS	

2.10 Serial Port Test

1. Windows Vista 32&64-bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	RS-232 Mouse Test	PASS	

2. Windows Server 2008 32-bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	RS-232 Mouse Test	PASS	
3	b&b com port test	PASS	

3. Windows Server 2008 R2 64-bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	RS-232 Mouse Test	PASS	

4. Windows 7 32&64-bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	RS-232 Mouse Test	PASS	

5. Windows 8 32&64-bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	RS-232 Mouse Test	PASS	

2.11 PS/2 Keyboard 、 Mouse Test

1. MS-DOS

Item	Description	Result	Remark
1	Keyboard LED Status Test	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

2. Windows Vista 32&64-bit

Item	Description	Result	Remark
1	Keyboard LED Status Test	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

3. Windows Server 2008 32-bit

Item	Description	Result	Remark
1	Keyboard LED Status Test	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

4. Windows Server 2008 R2 64-bit

Item	Description	Result	Remark
1	Keyboard LED Status Test	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

5. Windows 7 32&64-bit

Item	Description4	Result	Remark
1	Keyboard LED Status Test	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

6. Windows 8 32&64-bit

Item	Description	Result	Remark
1	Keyboard LED Status Test	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

7. Ubuntu 12.04 LST

Item	Description	Result	Remark
1	Keyboard LED Status Test	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

2.12 LAN Test

Data Transfer Test environment:-CAT 6 UTP 100M

-10 HR. continuous

1. Windows Server 2008 R2 64-bit

64-bit driver version : 12.11.97.0

Item	Description	Result	Remark
1	Device Manager Check	PASS	

2. Windows 7 32 & 64-bit

32/64-bit driver version : 12.11.97.0

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	Data Transfer Test	PASS	

3. Windows 8 32& 64-bit

32/64-bit driver version : 12.11.97.0

Item	Description	Result	Remark
1	Device Manager Check	PASS	

4. Ubuntu 14.04 LST

Item	Description	Result	Remark
1	Device Manager Check	PASS	

2.13 PCI Express mini card

Motherboard	PCI Express mini card	Remark
LV-670	MPX-210D	PASS
	MPX-210D2	NO SUPPLY
	MPX-574D	PASS
	MPX-574D2	NO SUPPLY
	MPX-643	PASS
	MPX-750	NO SUPPLY
	MPX-827	NO SUPPLY
	MPX-885	PASS
	MPX-954	PASS
	MPX-954E	PASS
	MPX-2515	NO SUPPLY
	MPX-3132	NO SUPPLY

	MPX-4232	PASS
	MPX-5201	NO SUPPLY
	MPX-6864	PASS
	MPX-7202	NO SUPPLY
	MPX-9125	PASS
	MPX-24794G2	NO SUPPLY
	MPX-25858	NO SUPPLY
	MPX-TP4R	NO SUPPLY

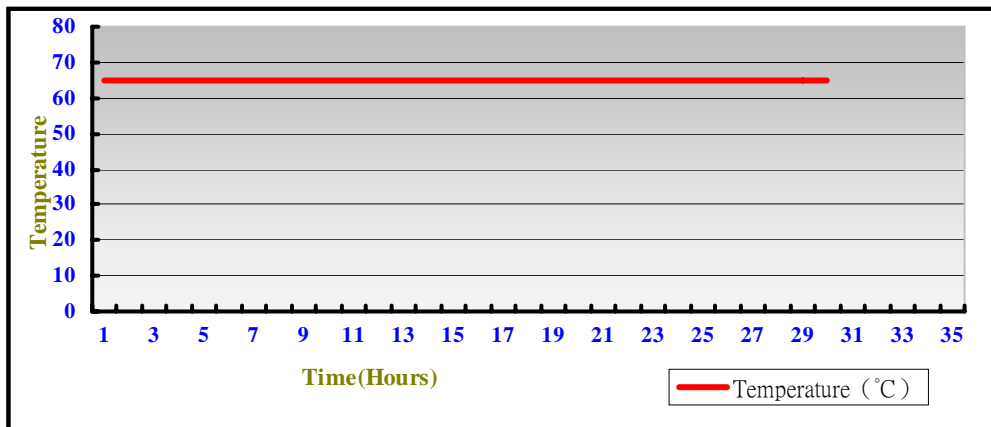
2.14 Power Supply Test

Item	TYPE	Description	Result	Remark
1	ATX Power	CORSAIR CMPSU-500CX V2 500W	PASS	
2	ATX Power	Seasonic SS-500ET 500W	PASS	
3	ATX Power	COOLER MASTER RS-390-PMSR-A3 390W	PASS	
4	ATX Power	AcBel PC7008 380W	PASS	
5	Adapter	LI SHIN 0219B1280 80W	PASS	
6	Adapter	LI SHIN 0227B19120 120W	PASS	

3. Environmental test

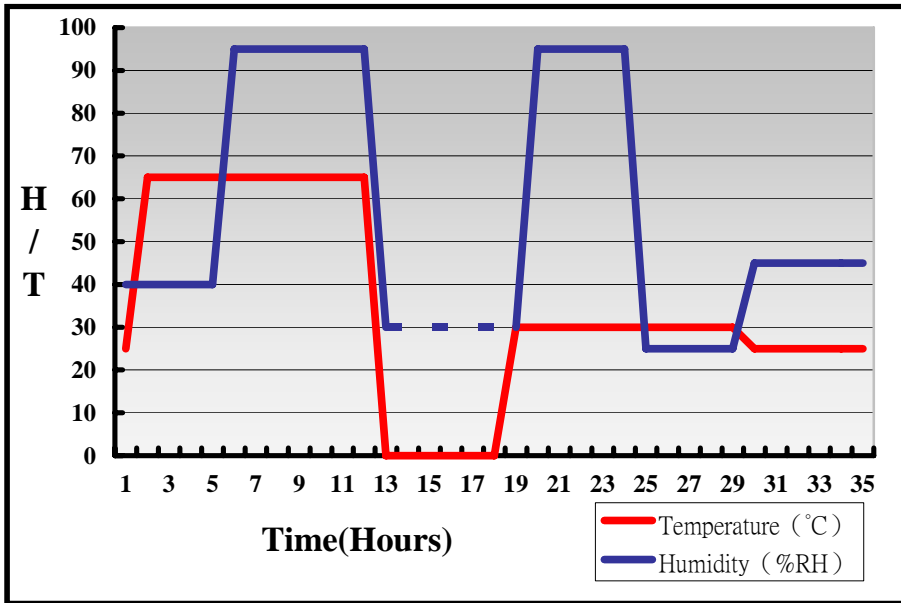
3.1 Temperature Test

System Board	LV-67OEIP_B
CPU	Intel(R) Atom(TM) E3845 1.91GHz
Memory	DSL DDR3L 1600 8GB (SEC K4B4G0846D)
HDD	Western Digital WD2500AAKS-00V1A0 250GB
Operating OS	Windows 7 32-bit
Test Equipment	GIANT FORCE (GTH-150-60-CP-AR)
Test Program	3DMark 2006



Hardware Device list:

System Board	LV-67OEIP_B
CPU	Intel(R) Atom(TM) E3845 1.91GHz
Memory	DSL DDR3L 1600 8GB (SEC K4B4G0846D)
HDD	Western Digital WD2500AAKS-00V1A0 250GB
Operating OS	Windows 7 32-bit
Test Equipment	GIANT FORCE (GTH-150-60-CP-AR)
Test Program	3DMark 2006



Definition : When the temperature is 30 degrees below arrive, humidity measurements have not, so by the dashed line express.

Boot Up Test:

Hardware Device list:

System Board	LV-67OEIP_B
CPU	Intel(R) Atom(TM) E3845 1.91GHz
Memory	Kingston DDR3L 1600 4GB (Kingston D512BEC4BPGG8U)
HDD	Western Digital WD5000AAKS-0V1A0 500GB
Operating OS	Windows 7 32-bit

Temperature	Result	Remark
85°C	PASS	50 Times
-40°C	PASS	50 Times

3.2 Thermal measurements at various points on the board

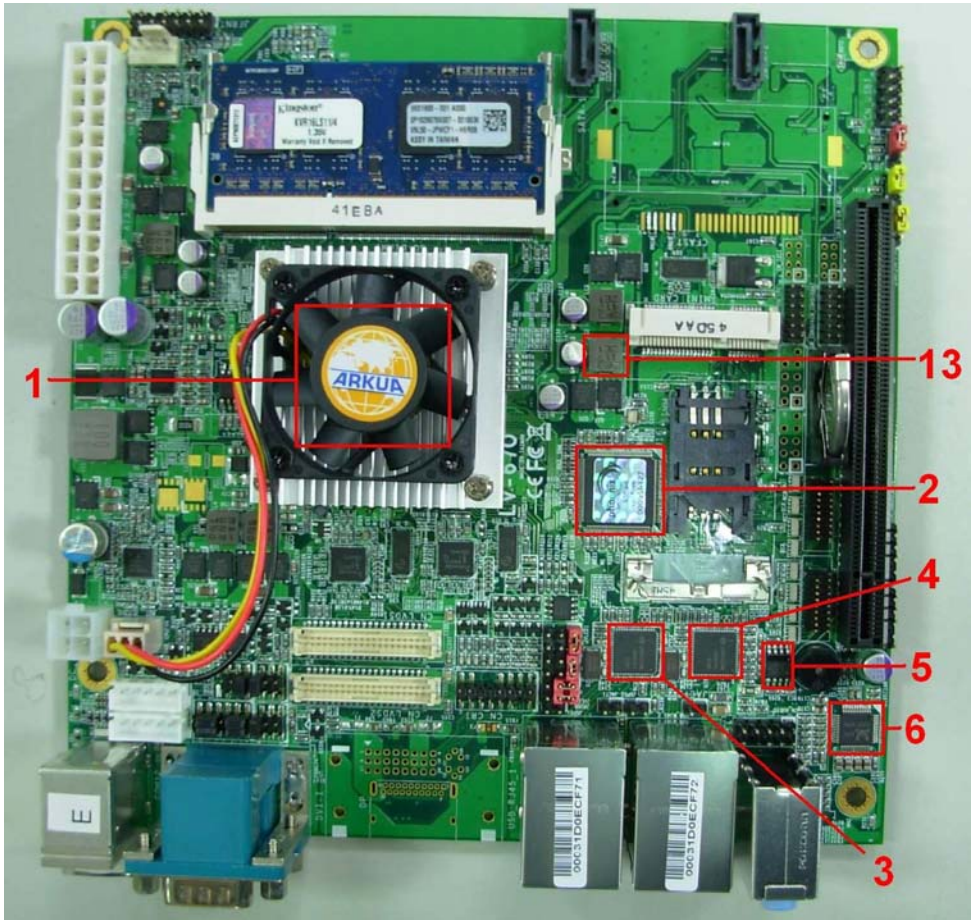
Test Environment :

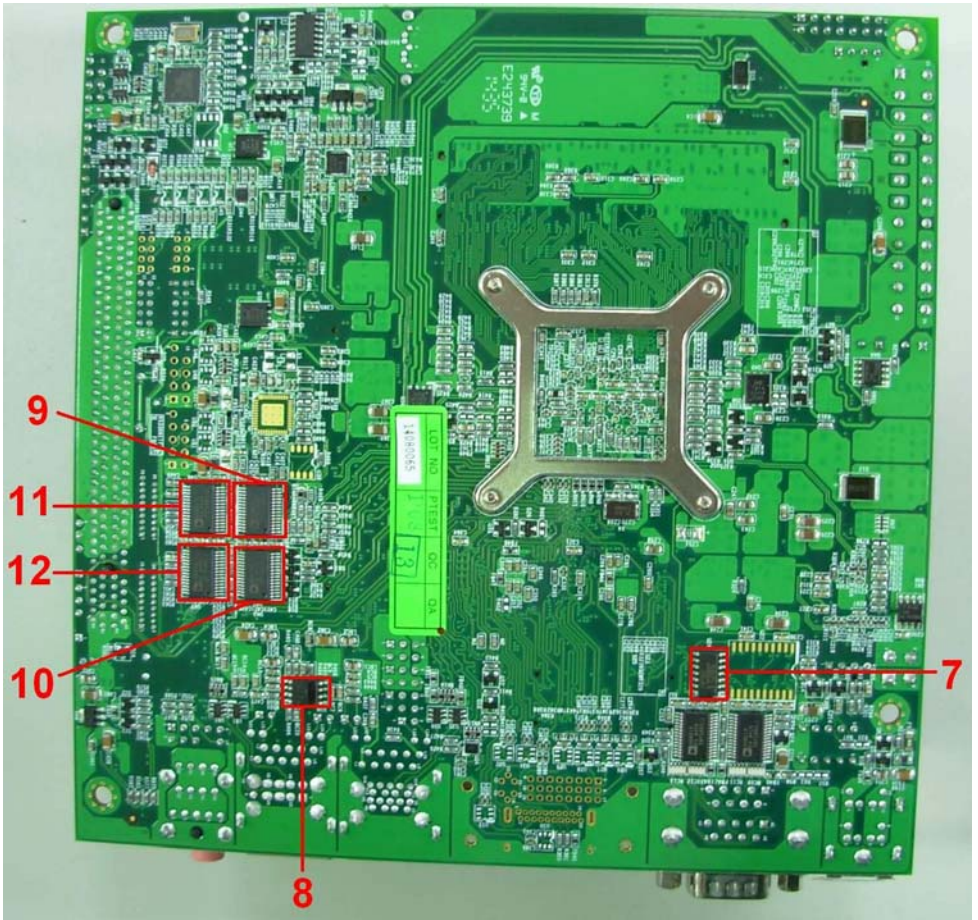
CPU	Intel(R) Atom(TM) E3845 1.91GHz
Memory	Kingston DDR3L 1600 4GB (NANGA T5CC512M8BN-DI)
HDD	Western Digital WD2500AAKS-009BA0 250GB
Power	COOLER MASTER RS-390-PMSR-A3 390W
Operating System	Windows 7
Test Program	Burnin 6.0

Test Result:

Item	Environmental temperature	25.5°C
1	CPU	41°C
2	U16 (ICNCT6106D+OBLPSB-1)	35.7°C
3	U17 (ICI210-AT)	38.3°C
4	U19 (ICI210-AT)	39.7°C
5	U20 (ICH25VF080B)	36.6°C
6	U21 (ICHALC262-VD2-GR)	50.9°C
7	U24 (ITS74F125)	36.8°C
8	U38 (ICH25VF080B)	33.5°C
9	U42 (ICADM213ECA-T)	34.4°C
10	U43 (ICADM213ECA-T)	35.4°C
11	U46 (ICADM213ECA-T)	34.2°C

12	U47 (ICADM213ECA-T)	35.7°C
13	LC2 (LLC3.3UH/063T)	34.3°C





4. Reliability Test

4.1 Power Consumption Test

1. Test Environment:

Motherboard	LV-67ONX2_B
CPU	Intel(R) Celeron(TM) N2930 2.16GHz
Memory	Kingston DDR3L 1600 8GB x1
HDD	Western Digital WD5002AALX-00J37A0 250GB

Power Supply : AcBel ATX-350P-DNSS

Voltage	MS-DOS Boot up		Win7 (64Bit) 3DMark2006 + Prime95-255a	
	Current (A)	Power (W)	Current (A)	Power (W)
12V(ATX)	0.06	7.2	0.91	10.9
5V(ATX)	0.27	1.35	0.30	1.50
3.3V(ATX)	0.30	0.99	0.26	0.86
5VSB(ATX)	0.03	0.15	0.01	0.05
12(DC-IN)	0.06	7.2	0.84	10.1

1.a. Test Environment:

The same as above but with LCD panels

Display Panel 1	AUO M170EG01 17"LCD
Display Panel 2	AUO M150XG01 15"LCD

Power Supply : AcBel ATX-350P-DNSS

Voltage	MS-DOS Boot up(Panel 1)		Win7(64Bit) 3DMark06 + Prime95-255a (Panel 1 +Panel 2)	
	Current (A)	Power (W)	Current (A)	Power (W)
12V(ATX)	2.37	28.4	3.34	40.1
5V(ATX)	0.41	2.05	0.05	0.25
3.3V(ATX)	0.05	0.14	0.05	1.65
5VSB(ATX)	0.03	0.15	0.01	0.05
12(DC-IN)	2.85	34.2	3.30	39.6

2.Test Environment:

Motherboard	LV-67OJX2_B
CPU	Intel(R) Celeron(TM) J1900 2.42GHz
Memory	Kingston DDR3L 1600 8GB x1
HDD	Western Digital WD5002AALX-00J37A0 250GB

Power Supply : AcBel ATX-350P-DNSS

Voltage	MS-DOS Boot up		Win7 (64Bit) 3DMark2006 + Prime95-255a	
	Current (A)	Power (W)	Current (A)	Power (W)
12V(ATX)	0.45	5.40	1.18	14.2
5V(ATX)	0.40	2.00	0.25	1.25
3.3V(ATX)	0.30	1.50	0.30	1.50
5VSB(ATX)	0.00	0.00	0.00	0.00
12(DC-IN)	0.72	8.64	1.40	16.8

2.a.Test Environment:

The same as above but with LCD panels

Display Panel 1	AUO M170EG01 17”LCD
Display Panel 2	AUO M150XG01 15”LCD

Power Supply : AcBel ATX-350P-DNSS

Voltage	MS-DOS Boot up		Win7 (64Bit) 3DMark2006 + Prime95-255a	
	Current (A)	Power (W)	Current (A)	Power (W)
12V(ATX)	2.20	26.4	3.42	41.04
5V(ATX)	0.58	2.90	0.24	1.20
3.3V(ATX)	0.35	1.75	0.41	1.35
5VSB(ATX)	0.03	0.15	0.02	0.10
12(DC-IN)	2.60	31.2	3.65	43.8

3.Test Environment:

Motherboard	LV-67OEIP_B
CPU	Intel(R) Atom(TM) E3845 1.91GHz
Memory	Kingston DDR3L 1600 8GB x1
HDD	Western Digital WD5002AALX-00J37A0 250GB

Power Supply : AcBel ATX-350P-DNSS

Voltage	MS-DOS Boot up		Win7 (64Bit) 3DMark2006 + Prime95-255a	
	Current (A)	Power (W)	Current (A)	Power (W)
12V(ATX)	0.60	7.20	1.10	13.2
5V(ATX)	0.02	1.10	0.05	0.25
3.3V(ATX)	0.42	1.39	0.30	1.00
5VSB(ATX)	0.00	0.00	0.00	0.00
12V(DC-IN)	0.74	8.88	1.30	15.6

5. Performance Test

5.1 Performance Test

Windows 7 32-bit

Test Environment		
CPU	Intel(R) Celeron(TM) J1900 2GHz	
Memory	Kingston DDR3L 1600 4GB (NANGA NT5CC512M8BN-DI)	
HDD	Western Digital WD3200BEKT-00F3T0 320GB	
Weighted Suite	Result	Score
PassMark Rating	PASS	675.7
CPU Mark	PASS	1565.2
2D Graphics Mark	PASS	175.9
3D Graphics Mark	PASS	151.1
Memory Mark	PASS	477.3
Disk Mark	PASS	568.6

Windows 7 64-bit

Test Environment		
CPU	Intel(R) Celeron(TM) J1900 2GHz	
Memory	Kingston DDR3L 1600 4GB (NANGA NT5CC512M8BN-DI)	
HDD	Western Digital WD3200BEKT-00F3T0 320GB	
Weighted Suite	Result	Score
PassMark Rating	PASS	706.5
CPU Mark	PASS	2249.5
2D Graphics Mark	PASS	188.6
3D Graphics Mark	PASS	151.8
Memory Mark	PASS	638.4
Disk Mark	PASS	523.6

Windows 8 64-bit

Test Environment		
CPU	Intel(R) Celeron(TM) J1900 2GHz	
Memory	Kingston DDR3L 1600 4GB (NANGA NT5CC512M8BN-DI)	
HDD	Western Digital WD3200BEKT-00F3T0 320GB	
Weighted Suite	Result	Score
PassMark Rating	PASS	685
CPU Mark	PASS	2032
2D Graphics Mark	PASS	219.7
3D Graphics Mark	PASS	151.6
Memory Mark	PASS	805
Disk Mark	PASS	458.2

Windows 7 32-bit

Test Environment		
CPU	Intel(R) Celeron(TM) N2930 1.83GHz	
Memory	Kingston DDR3L 1600 4GB (NANGA NT5CC512M8BN-DI)	
HDD	Western Digital WD3200BEKT-00F3T0 320GB	
Weighted Suite	Result	Score
PassMark Rating	PASS	565.3
CPU Mark	PASS	1392.3
2D Graphics Mark	PASS	162.8
3D Graphics Mark	PASS	149.4
Memory Mark	PASS	424.5
Disk Mark	PASS	551.6

Windows 7 64-bit

Test Environment		
CPU	Intel(R) Celeron(TM) N2930 1.83GHz	
Memory	Kingston DDR3L 1600 4GB (NANGA NT5CC512M8BN-DI)	
HDD	Western Digital WD3200BEKT-00F3T0 320GB	
Weighted Suite	Result	Score
PassMark Rating	PASS	657.4
CPU Mark	PASS	2025.4
2D Graphics Mark	PASS	161.6
3D Graphics Mark	PASS	151.7
Memory Mark	PASS	613
Disk Mark	PASS	520.7

Windows 8 64-bit

Test Environment		
CPU	Intel(R) Celeron(TM) N2930 1.83GHz	
Memory	Kingston DDR3L 1600 4GB (NANGA NT5CC512M8BN-DI)	
HDD	Western Digital WD3200BEKT-00F3T0 320GB	
Weighted Suite	Result	Score
PassMark Rating	PASS	664
CPU Mark	PASS	1841
2D Graphics Mark	PASS	200
3D Graphics Mark	PASS	151.3
Memory Mark	PASS	787
Disk Mark	PASS	479.9

Windows 8 32-bit

Test Environment		
CPU	Intel(R) Celeron(TM) J1900 2GHz	
Memory	Kingston DDR3L 1600 8GB (Micron 4GE77 D9GBJ)	
HDD	Western Digital WD5000BEKT-00V1A0 500GB	
Weighted Suite	Result	Score
PassMark Rating	PASS	526
CPU Mark	PASS	1432
2D Graphics Mark	PASS	92.2
3D Graphics Mark	PASS	153.1
Memory Mark	PASS	576
Disk Mark	PASS	790

Windows 8 64-bit

Test Environment		
CPU	Intel(R) Celeron(TM) J1900 2GHz	
Memory	Kingston DDR3L 1600 8GB (Micron 4GE77 D9GBJ)	
HDD	Western Digital WD5000BEKT-00V1A0 500GB	
Weighted Suite	Result	Score
PassMark Rating	PASS	747
CPU Mark	PASS	2051
2D Graphics Mark	PASS	220.1
3D Graphics Mark	PASS	153.8
Memory Mark	PASS	891
Disk Mark	PASS	731

5.2 3D MARK(2001SE 、 2003 、 2005)

Windows 7 32-bit

Weighted Suite	Test Environment	Result	Remark
3DMARK2001 SE SCORE	Intel(R) Atom(TM) E3845 1.91GHz Kingston DDR3L 1600 4GB (Kingston D512BEC4BPGG8U) Western Digital WD5000AAKS-00V1A0 500GB	PASS	8388
3DMARK2003 SCORE		PASS	5234
3DMARK2005 SCORE		PASS	3384

Windows 7 64-bit

Weighted Suite	Test Environment	Result	Remark
3DMARK2001 SE SCORE	Intel(R) Atom(TM) E3845 1.91GHz Kingston DDR3L 1600 4GB (Kingston D512BEC4BPGG8U) Western Digital WD3200BEKT-00F3T0 320GB	PASS	8478
3DMARK2003 SCORE		PASS	5260
3DMARK2005 SCORE		PASS	3351

Windows 7 32-bit

Weighted Suite	Test Environment	Result	Remark
3DMARK2001 SE SCORE	Intel(R) Celeron(TM) J1900 2GHz Kingston DDR3L 1600 4GB (NANGA NT5CC512M8BN-DI) Western Digital WD3200BEKT-00F3T0 320GB	PASS	9724
3DMARK2003 SCORE		PASS	5676
3DMARK2005 SCORE		PASS	3789

Windows 7 64-bit

Weighted Suite	Test Environment	Result	Remark
3DMARK2001 SE SCORE	Intel(R) Celeron(TM) J1900 2GHz Kingston DDR3L 1600 4GB (NANGA NT5CC512M8BN-DI) Western Digital WD3200BEKT-00F3T0 320GB	PASS	9663
3DMARK2003 SCORE		PASS	5691
3DMARK2005 SCORE		PASS	3769

Windows 7 32-bit

Weighted Suite	Test Environment	Result	Remark
3DMARK2001 SE SCORE	Intel(R) Celeron(TM) N2930 1.83GHz	PASS	9193
3DMARK2003 SCORE	Kingston DDR3L 1600 4GB (NANGA NT5CC512M8BN-DI)	PASS	5687
3DMARK2005 SCORE	Western Digital WD3200BEKT-00F3T0 320GB	PASS	3782

Windows 7 64-bit

Weighted Suite	Test Environment	Result	Remark
3DMARK2001 SE SCORE	Intel(R) Celeron(TM) N2930 1.83GHz	PASS	9249
3DMARK2003 SCORE	Kingston DDR3L 1600 4GB (NANGA NT5CC512M8BN-DI)	PASS	5679
3DMARK2005 SCORE	Western Digital WD3200BEKT-00F3T0 320GB	PASS	3779

Windows 8 32-bit

Weighted Suite	Test Environment	Result	Remark
3DMARK2001 SE SCORE	Intel(R) Celeron(TM) J1900 2GHz Kingston DDR3L 1600 8GB*2 (Micron 4GE77 D9GBJ) Western Digital WD5000BEKT-00V1A0 500GB	PASS	11146
3DMARK2003 SCORE		PASS	6745
3DMARK2005 SCORE		PASS	4460

Windows 8 64-bit

Weighted Suite	Test Environment	Result	Remark
3DMARK2001 SE SCORE	Intel(R) Celeron(TM) J1900 2GHz Kingston DDR3L 1600 8GB (Micron 4GE77 D9GBJ) Western Digital WD5000BEKT-00V1A0 500GB	PASS	9884
3DMARK2003 SCORE		PASS	5673
3DMARK2005 SCORE		PASS	3848

5.3 3D MARK2006

Windows 7 32-bit

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK SCORE	Intel(R) Atom(TM) E3845 1.91GHz Kingston DDR3L 1600 4GB (Kingston D512BEC4BPGG8U) Western Digital WD5000AAKS-00V1A0 500GB	PASS	2275
2	SM2.0 SCORE		PASS	728
3	HDR/SM3.0 SCORE		PASS	940
4	CPU SCORE		PASS	1896

Windows 7 64-bit

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK SCORE	Intel(R) Atom(TM) E3845 1.91GHz Kingston DDR3L 1600 4GB (Kingston D512BEC4BPGG8U) Western Digital WD3200BEKT-00F3T0 320GB	PASS	2303
2	SM2.0 SCORE		PASS	733
3	HDR/SM3.0 SCORE		PASS	956
4	CPU SCORE		PASS	1905

Windows 7 32-bit

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK SCORE	Intel(R) Celeron(TM) J1900 2GHz Kingston DDR3L 1600 4GB (NANGA NT5CC512M8BN-DI) Western Digital WD3200BEKT-00F3T0 320GB	PASS	2475
2	SM2.0 SCORE		PASS	799
3	HDR/SM3.0 SCORE		PASS	997
4	CPU SCORE		PASS	2359

Windows 7 64-bit

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK SCORE	Intel(R) Celeron(TM) J1900 2GHz Kingston DDR3L 1600 4GB (NANGA NT5CC512M8BN-DI) Western Digital WD3200BEKT-00F3T0 320GB	PASS	2496
2	SM2.0 SCORE		PASS	805
3	HDR/SM3.0 SCORE		PASS	1009
4	CPU SCORE		PASS	2323

Windows 7 32-bit

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK SCORE	Intel(R) Celeron(TM) N2930 1.83GHz Kingston DDR3L 1600 4GB (NANGA NT5CC512M8BN-DI) Western Digital WD3200BEKT-00F3T0 320GB	PASS	2459
2	SM2.0 SCORE		PASS	800
3	HDR/SM3.0 SCORE		PASS	996
4	CPU SCORE		PASS	2135

Windows 7 64-bit

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK SCORE	Intel(R) Celeron(TM) N2930 1.83GHz Kingston DDR3L 1600 4GB (NANGA NT5CC512M8BN-DI) Western Digital WD3200BEKT-00F3T0 320GB	PASS	2481
2	SM2.0 SCORE		PASS	807
3	HDR/SM3.0 SCORE		PASS	1007
4	CPU SCORE		PASS	2122

Windows 8 32-bit

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK SCORE	Intel(R) Celeron(TM) J1900 2GHz Kingston DDR3L 1600 8GB*2 (Micron 4GE77 D9GBJ) Western Digital WD5000BEKT-00V1A0 500GB	PASS	2977
2	SM2.0 SCORE		PASS	965
3	HDR/SM3.0 SCORE		PASS	1219
4	CPU SCORE		PASS	2440

Windows 8 64-bit

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK SCORE	Intel(R) Celeron(TM) J1900 2GHz Kingston DDR3L 1600 8GB (Micron 4GE77 D9GBJ) Western Digital WD5000BEKT-00V1A0 500GB	PASS	2576
2	SM2.0 SCORE		PASS	831
3	HDR/SM3.0 SCORE		PASS	1039
4	CPU SCORE		PASS	2433

5.4 PC MARK2002

Test Environment
Intel(R) Atom(TM) E3845 1.91GHz Kingston DDR3L 1600 4GB (Kingston D512BEC4BPGG8U) Western Digital WD5000AAKS-00V1A0 500GB

Windows 7 32-bit

Item	Weighted Suite	Result	Remark
1	CPU SCORE	PASS	N/A
2	Memory SCORE	PASS	12552
3	HDD SCORE	PASS	2538

Test Environment
Intel(R) Atom(TM) E3845 1.91GHz Kingston DDR3L 1600 4GB (Kingston D512BEC4BPGG8U) Western Digital WD5000AAKS-00V1A0 500GB

Windows 7 64-bit

Item	Weighted Suite	Result	Remark
1	CPU SCORE	PASS	N/A
2	Memory SCORE	PASS	12640
3	HDD SCORE	PASS	2297

Test Environment
Intel(R) Celeron(TM) J1900 2GHz Kingston DDR3L 1600 4GB (NANGA NT5CC512M8BN-DI) Western Digital WD3200BEKT-00F3T0 320GB

Windows 7 32-bit

Item	Weighted Suite	Result	Remark
1	CPU SCORE	PASS	N/A
2	Memory SCORE	PASS	14026
3	HDD SCORE	PASS	2441

Test Environment
Intel(R) Celeron(TM) J1900 2GHz Kingston DDR3L 1600 4GB (NANGA NT5CC512M8BN-DI) Western Digital WD3200BEKT-00F3T0 320GB

Windows 7 64-bit

Item	Weighted Suite	Result	Remark
1	CPU SCORE	PASS	N/A
2	Memory SCORE	PASS	14138
3	HDD SCORE	PASS	2291

Test Environment
Intel(R) Celeron(TM) N2930 1.83GHz Kingston DDR3L 1600 4GB (NANGA NT5CC512M8BN-DI) Western Digital WD3200BEKT-00F3T0 320GB

Windows 7 32-bit

Item	Weighted Suite	Result	Remark
1	CPU SCORE	PASS	N/A
2	Memory SCORE	PASS	13116
3	HDD SCORE	PASS	2289

Test Environment
Intel(R) Celeron(TM) N2930 1.83GHz Kingston DDR3L 1600 4GB (NANGA NT5CC512M8BN-DI) Western Digital WD3200BEKT-00F3T0 320GB

Windows 7 64-bit

Item	Weighted Suite	Result	Remark
1	CPU SCORE	PASS	N/A
2	Memory SCORE	PASS	13454
3	HDD SCORE	PASS	2347

5.5 PC MARK2004

Test Environment
Intel(R) Atom(TM) E3845 1.91GHz Kingston DDR3L 1600 4GB (Kingston D512BEC4BPGG8U) Western Digital WD5000AAKS-00V1A0 500GB

Windows 7 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark SCORE	PASS	N/A
2	CPU SCORE	PASS	4475
3	Memory SCORE	PASS	4168
4	Graphic SCORE	PASS	3768
5	HDD SCORE	PASS	N/A

Test Environment
Intel(R) Atom(TM) E3845 1.91GHz Kingston DDR3L 1600 4GB (Kingston D512BEC4BPGG8U) Western Digital WD5000AAKS-00V1A0 500GB

Windows 7 64-bit

Item	Weighted Suite	Result	Remark
1	PCMark SCORE	PASS	N/A
2	CPU SCORE	PASS	4471
3	Memory SCORE	PASS	4173
4	Graphic SCORE	PASS	3740
5	HDD SCORE	PASS	N/A

Test Environment

**Intel(R) Celeron(TM) J1900 2GHz
Kingston DDR3L 1600 4GB (NANGA NT5CC512M8BN-DI)
Western Digital WD3200BEKT-00F3T0 320GB**

Windows 7 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark SCORE	PASS	N/A
2	CPU SCORE	PASS	5622
3	Memory SCORE	PASS	4718
4	Graphic SCORE	PASS	4056
5	HDD SCORE	PASS	N/A

Test Environment

**Intel(R) Celeron(TM) J1900 2GHz
Kingston DDR3L 1600 4GB (NANGA NT5CC512M8BN-DI)
Western Digital WD3200BEKT-00F3T0 320GB**

Windows 7 64-bit

Item	Weighted Suite	Result	Remark
1	PCMark SCORE	PASS	N/A
2	CPU SCORE	PASS	5603
3	Memory SCORE	PASS	4736
4	Graphic SCORE	PASS	4164
5	HDD SCORE	PASS	N/A

Test Environment

**Intel(R) Celeron(TM) N2930 1.83GHz
Kingston DDR3L 1600 4GB (NANGA NT5CC512M8BN-DI)
Western Digital WD3200BEKT-00F3T0 320GB**

Windows 7 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark SCORE	PASS	N/A
2	CPU SCORE	PASS	5017
3	Memory SCORE	PASS	4493
4	Graphic SCORE	PASS	4136
5	HDD SCORE	PASS	N/A

Test Environment

**Intel(R) Celeron(TM) N2930 1.83GHz
Kingston DDR3L 1600 4GB (NANGA NT5CC512M8BN-DI)
Western Digital WD3200BEKT-00F3T0 320GB**

Windows 7 64-bit

Item	Weighted Suite	Result	Remark
1	PCMark SCORE	PASS	N/A
2	CPU SCORE	PASS	5008
3	Memory SCORE	PASS	4492
4	Graphic SCORE	PASS	4130
5	HDD SCORE	PASS	N/A

Test Environment

**Intel(R) Celeron(TM) J1900 2GHz
Kingston DDR3L 1600 8GB (Micron 4GE77 D9GBJ)*2
Western Digital WD5000BEKT-00V1A0 500GB**

Windows 8 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark SCORE	PASS	N/A
2	CPU SCORE	PASS	5529
3	Memory SCORE	PASS	4957
4	Graphic SCORE	PASS	4761
5	HDD SCORE	PASS	N/A

Test Environment

**Intel(R) Celeron(TM) J1900 2GHz
Kingston DDR3L 1600 8GB (Micron 4GE77 D9GBJ)
Western Digital WD5000BEKT-00V1A0 500GB**

Windows 8 64-bit

Item	Weighted Suite	Result	Remark
1	PCMark SCORE	PASS	N/A
2	CPU SCORE	PASS	5525
3	Memory SCORE	PASS	4738
4	Graphic SCORE	PASS	4032
5	HDD SCORE	PASS	N/A

5.6 PC MARK2005

Test Environment
Intel(R) Atom(TM) E3845 1.91GHz DSL DDR3L 1600 8GB (SEC K4B4G0846D) Western Digital WD2500AAKS-00V1A0 250GB

Windows 7 64-bit

Item	Weighted Suite	Result	Remark
1	PCMark SCORE	PASS	N/A
2	CPU SCORE	PASS	3861
3	Memory SCORE	PASS	3891
4	Graphic SCORE	PASS	N/A
5	HDD SCORE	PASS	N/A

Test Environment
Intel(R) Atom(TM) E3845 1.91GHz DSL DDR3L 1600 4GB (SEC K4B4G0846D) Western Digital WD2500AAKS-00V1A0 250GB

Windows 7 64-bit

Item	Weighted Suite	Result	Remark
1	PCMark SCORE	PASS	N/A
2	CPU SCORE	PASS	3865
3	Memory SCORE	PASS	3909
4	Graphic SCORE	PASS	N/A
5	HDD SCORE	PASS	N/A

Test Environment
Intel(R) Atom(TM) E3845 1.91GHz DSL DDR3L 1600 2GB (SEC K4B4G0846D) Western Digital WD2500AAKS-00V1A0 250GB

Windows 7 64-bit

Item	Weighted Suite	Result	Remark
1	PCMark SCORE	PASS	N/A
2	CPU SCORE	PASS	3868
3	Memory SCORE	PASS	3927
4	Graphic SCORE	PASS	N/A
5	HDD SCORE	PASS	N/A

Test Environment
Intel(R) Atom(TM) E3845 1.91GHz Kingston DDR3L 1600 4GB (Kingston D512BEC4BPGG8U) Western Digital WD5000AAKS-00V1A0 500GB

Windows 7 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark SCORE	PASS	N/A
2	CPU SCORE	PASS	3867
3	Memory SCORE	PASS	3904
4	Graphic SCORE	PASS	N/A
5	HDD SCORE	PASS	N/A

Test Environment
Intel(R) Atom(TM) E3845 1.91GHz Kingston DDR3L 1600 4GB (Kingston D512BEC4BPGG8U) Western Digital WD5000AAKS-00V1A0 500GB

Windows 7 64-bit

Item	WEIGHTED SUITE	Result	Remark
1	PCMark SCORE	PASS	N/A
2	CPU SCORE	PASS	3850
3	Memory SCORE	PASS	3900
4	Graphic SCORE	PASS	N/A
5	HDD SCORE	PASS	N/A

Test Environment
Intel(R) Atom(TM) E3845 1.91GHz DSL DDR3L 1600 2GB (SEC K4B4G0846D) Western Digital WD2500AAKS-00V1A0 250GB

Windows 7 64-bit

Item	Weighted Suite	Result	Remark
1	PCMark SCORE	PASS	N/A
2	CPU SCORE	PASS	3868
3	Memory SCORE	PASS	3927
4	Graphic SCORE	PASS	N/A
5	HDD SCORE	PASS	N/A

Test Environment
Intel(R) Celeron(TM) J1900 2GHz Kingston DDR3L 1600 4GB (NANGA NT5CC512M8BN-DI) Western Digital WD3200BEKT-00F3T0 320GB

Windows 7 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark SCORE	PASS	N/A
2	CPU SCORE	PASS	4861
3	Memory SCORE	PASS	4464
4	Graphic SCORE	PASS	N/A
5	HDD SCORE	PASS	N/A

Windows 7 64-bit

Item	Weighted Suite	Result	Remark
1	PCMark SCORE	PASS	N/A
2	CPU SCORE	PASS	4876
3	Memory SCORE	PASS	4450
4	Graphic SCORE	PASS	N/A
5	HDD SCORE	PASS	N/A

Test Environment

**Intel(R) Celeron(TM) N2930 1.83GHz
Kingston DDR3L 1600 4GB (NANGA NT5CC512M8BN-DI)
Western Digital WD3200BEKT-00F3T0 320GB**

Windows 7 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark SCORE	PASS	N/A
2	CPU SCORE	PASS	4387
3	Memory SCORE	PASS	4200
4	Graphic SCORE	PASS	N/A
5	HDD SCORE	PASS	N/A

Windows 7 64-bit

Item	Weighted Suite	Result	Remark
1	PCMark SCORE	PASS	N/A
2	CPU SCORE	PASS	4362
3	Memory SCORE	PASS	4179
4	Graphic SCORE	PASS	N/A
5	HDD SCORE	PASS	N/A

Test Environment
Intel(R) Celeron(TM) J1900 2GHz Kingston DDR3L 1600 8GB (Micron 4GE77 D9GBJ)*2 Western Digital WD5000BEKT-00V1A0 500GB

Windows 7 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark SCORE	PASS	N/A
2	CPU SCORE	PASS	4906
3	Memory SCORE	PASS	4437
4	Graphic SCORE	PASS	N/A
5	HDD SCORE	PASS	N/A

Windows 7 64-bit

Item	Weighted Suite	Result	Remark
1	PCMark SCORE	PASS	N/A
2	CPU SCORE	PASS	4925
3	Memory SCORE	PASS	4204
4	Graphic SCORE	PASS	N/A
5	HDD SCORE	PASS	N/A

5.7 Storage Performance

5.7.1 HDD

Test environment: OS Windows 7 Program (HD Tune)

HDD Model	Interface	Capacity	Average	Burst Rate	Access time
Western Digital WD10EALX-009BA0	SATA	1.0 TB	99.2 MB/sec	100 MB/sec	13.2 ms
Western Digital WD5002AALX-00J37A0	SATA	500 GB	94.9 MB/sec	137.6 MB/sec	16.6 ms
Western Digital WD5000AAKS-00V1A0	SATA	500 GB	84.5 MB/sec	97.1 MB/sec	16 ms
Western Digital WD3200BEKT-00F3T0	SATA	320 GB	64.6 MB/sec	99 MB/sec	15 ms
Western Digital WD3200BPVT-00JJ5T0	SATA	320 GB	64.2 MB/sec	69.4 MB/sec	18.8 ms
Western Digital WD2500AAKS-00VYA0	SATA	250 GB	61.5 MB/sec	84.1 MB/sec	15 ms
Intel SSDSC2CT060A3	SSD	60 GB	150.9 MB/sec	83.1 MB/sec	0.3 ms
BUFFALO BUF-HP-HXU3(B)	USB 3.0	1 TB	26.1 MB/sec	24.1 MB/sec	14.4 ms
Kingston DDTHX30	USB 3.0	64 GB	1 MB/sec	1 MB/sec	2.1 ms
Silicon Power UFD 2.0	USB	4 GB	13.8 MB/sec	13 MB/sec	0.8 ms
TDK LoR Trans-It Drive	USB	4 GB	16.8 MB/sec	15.3 MB/sec	1.1 ms

5.7.2 DVD-ROM

Test environment:

OS Windows 7

Program (NERO)

DVD-ROM Model	Interface	Average Speed	Full Read	Burst Rate	DVD
PIONEER DVR-S19LBK	SATA	9.72 x	206 ms	35 MB/s	16 X DVD-R
ASUS DRW-1814BLT	SATA	6.55 x	209 ms	38 MB/s	16 X DVD-R
LITE-ON iHES312	SATA	10.35 x	163 ms	34 MB/s	16 X DVD-R
LITEON eTAU108	USB	5.18 x	216 ms	17 MB/s	16 X DVD-R
PIONEER DVR-XD11T	USB	5.38 x	205 ms	19 MB/s	16 X DVD-R