

# Product Test Report



<b>Product Name</b>	<b>LE-37A</b>
<b>Product Version</b>	<b>A</b>
<b>Issued Date</b>	<b>2012.12.25</b>
<b>Report Edition</b>	<b>1.1</b>
<b>BIOS Version</b>	<b>1.0</b>
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<b>REVISION HISTORY</b>			
<b>DATE</b>	<b>REVISION NO.</b>	<b>PAGE</b>	<b>DESCRIPTONS</b>
2012.12.18	Ver. 1.0	54	Initial Release
2012.12.25	Ver. 1.1	60	Change Power Consumption data

# Index

<b>1. Function test</b> .....	<b>5</b>
1.1 Hardware function.....	5
1.2 BIOS function .....	7
1.3 Driver .....	9
<b>2. Compatibility test</b> .....	<b>12</b>
2.1 CPU Test.....	12
2.2 Operation System Test .....	13
2.3 Memory Test .....	14
2.4 VGA Graphic Quality Test.....	15
2.5 Audio .....	16
2.6 HDD Test .....	19
2.7 DVD-ROM Test .....	20
2.8 USB device Test .....	21
2.9 Serial Port Test .....	23
2.10 PS2 Keyboard 、 Mouse Test.....	26
2.11 LAN Test.....	28
2.12 Power Supply Test .....	30
2.13 PCI Express mini card .....	31
<b>3. Environmental test</b> .....	<b>33</b>
3.1 Temperature Test.....	33
3.2 Thermal measurements at various points on the board .....	36
<b>4. Reliability Test</b> .....	<b>38</b>
4.1 Power Consumption Test .....	38
<b>5. Performance Test</b> .....	<b>42</b>
5.1 Content Creation Winstone 2004.....	42
5.2 3D MARK(2001 、 2003 、 2005) .....	43

<b>5.3 3D MARK2006</b> .....	<b>46</b>
<b>5.4 PC MARK2002</b> .....	<b>49</b>
<b>5.5 PC MARK2004</b> .....	<b>52</b>
<b>5.6 PC MARK2005</b> .....	<b>55</b>
<b>5.7 Storage Performance</b> .....	<b>59</b>

# 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	SATA 1 / 2	PASS
6	DDR3	PASS
7	USB 1 / 2 / 3 / 4 / 5 / 6	PASS
8	COM 1 / 2	PASS
9	VGA Port	PASS
10	PS2	PASS
11	CD_IN	PASS
12	CN_AUDIO	PASS
13	DIO	PASS
14	DVI	PASS
15	LVDS	PASS
16	CPUFAN	PASS
17	SYSFAN	PASS
18	LAN	PASS
19	MINI CARD 1 / 2	PASS
20	DC_IN	PASS
23	IrDA	PASS

## Jumper

Item	Description	Result
1	JRTC	PASS
2	JCSEL1	PASS
3	JCSEL2	PASS
4	JVLCD	PASS
5	JAT	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	Save & Exit Setup	PASS	
4	Date & Time Setting	PASS	
5	NumLock	PASS	
6	Select Language	PASS	
7	Quick Boot	PASS	
8	Console Redirection	PASS	
9	Active Processor Cores	PASS	
10	Interface Combination	PASS	NO RAID
11	DVMT Total Gfx Mem	PASS	
12	IGD-Boot Type (No includes SDVOX)	PASS	
13	IGD-LCD Panel type	PASS	
14	Panel Color Depth	PASS	
15	USB Per-Port Disabled Control	PASS	
16	SB Azalia Configuration	PASS	
17	LAN OPROM Selection	PASS	
18	Serial Port	PASS	
19	IR Func.	PASS	
20	Watch Dog Timer Select	PASS	
21	Power Control	PASS	
22	Power On By RTC Alarm	PASS	
23	Set Supervisor Password	PASS	
24	Set User Password	PASS	
25	CPU Warning Temp	PASS	

26	CPU Fan Control	PASS	
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### 1.3 Driver

#### CD Edition : IPCi4-1.1

##### 1. Windows XP SP2 32-bit driver test

Item	Description	Result	version
1	Chipset Driver	PASS	9.2.0.1025
2	VGA Driver	PASS	6.14.10.5337
3	Audio Driver	PASS	5.10.0.6194
4	LAN Driver	PASS	11.15.12.0

##### 2. Windows XP SP2 64-bit driver test

Item	Description	Result	version
1	Chipset Driver	PASS	9.2.0.1025
2	VGA Driver	PASS	6.14.10.5337
3	Audio Driver (Need UAA bus driver)	PASS	5.10.0.6194
4	LAN Driver	PASS	11.15.12.0

##### 3. Windows Server 2003 32-bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	9.2.0.1025
2	Audio Driver	PASS	5.10.0.6194
3	LAN Driver	PASS	11.15.12.0

#### 4. Windows Server 2003 64-bit driver test

Item	Description	Result	Version
1	Chipset Driver	PASS	9.2.0.1025
2	Audio Driver	PASS	5.10.0.6194
3	LAN Driver	PASS	11.15.12.0

#### 5. Windows Vista 32-bit driver test

Item	Description	Result	version
1	Chipset Driver	PASS	9.2.0.1025
2	VGA Driver	PASS	8.15.10.2321
3	Audio Driver	PASS	6.0.1.6083
4	LAN Driver	PASS	11.15.12.0

#### 6. Windows Vista 64-bit driver test

Item	Description	Result	version
1	Chipset Driver	PASS	9.2.0.1025
2	VGA Driver	PASS	8.15.10.2321
3	Audio Driver	PASS	6.0.1.6083
4	LAN Driver	PASS	11.15.12.0

#### 7. Windows Server 2008 32-bit driver test

Item	Description	Result	version
1	Chipset Driver	PASS	9.2.0.1025
2	Audio Driver	PASS	6.0.1.6083
3	LAN Driver	PASS	11.15.12.0

#### 8. Windows Server 2008 64-bit driver test

Item	Description	Result	version
1	Chipset Driver	PASS	9.2.0.1025
2	Audio Driver	PASS	6.0.1.6083
3	LAN Driver	PASS	11.15.12.0

#### 9. Windows 7 32-bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	9.2.0.1025
2	VGA Driver	PASS	8.15.10.2321
3	Audio Driver	PASS	6.0.1.6083
4	LAN Driver	PASS	11.15.12.0

#### 10. Windows 7 64-bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	9.2.0.1025
2	VGA Driver	PASS	8.15.10.2321
3	Audio Driver	PASS	6.0.1.6083
4	LAN Driver	PASS	11.15.12.0

## 2. Compatibility test

### 2.1 CPU Test

Test environment:

OS Windows XP professional SP2

Test program : PC MARK 2005

Spec Code	CPU Speed	Family	Processor	DMI	Smart Cache	Result
<a href="#">SR0BU</a>	1.1 GHz	Celeron	847E	-----	2 MB	PASS
<a href="#">SR0C6</a>	1.4 GHz	Celeron	827E	-----	1.5 MB	PASS

## 2.2 Operation System Test

Item	Description	Result	Remark
1	Windows 7 64-bit	PASS	
2	Windows 7 32-bit	PASS	
3	Windows Server 2008 64-bit	PASS	
4	Windows Server 2008 32-bit	PASS	
5	Windows Vista 64-bit	PASS	
6	Windows Vista 32-bit	PASS	
7	Windows XP SP2 64-bit	PASS	
8	Windows XP SP2 32-bit	PASS	
9	Windows Server 2003 64-bit	PASS	
10	Windows Server 2003 32-bit	PASS	

## 2.3 Memory Test

Test environment:

OS Windows XP professional SP2

Test program : PC MARK 2005

Manufacturer	Chip	Frequency	Capacity Mbytes	Result
ADATA	J1108BDBG-DJ-F	DDR3 1066	1 GB	PASS
ADATA	K4B1G0846D	DDR3 1066	1 GB	PASS
ADATA	H57Q1G83AFP	DDR3 1033	2 GB	PASS
Transcend	K4B1G0846D	DDR3 1066	1 GB	PASS
Transcend	K4B1G0846D	DDR3 1066	2 GB	PASS
Kingston	D2568JPTCPGD9U	DDR3 1333	4 GB	PASS
Kingston	J420BBBG-GN-F	DDR3 1600	8 GB	PASS

## 2.4 VGA Graphic Quality Test

Test environment:

OS Windows XP professional SP2 32/64-bit

Driver version : 6.14.10.5337

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	
1400*1050	16 / 32bit	PASS	
1440*900	16 / 32bit	PASS	
1600*900	16 / 32bit	PASS	
1600*1200	16 / 32bit	PASS	
1680*1050	16 / 32bit	PASS	
1792*1344	16 / 32bit	PASS	
1856*1392	16 / 32bit	PASS	
1920*1080	16 / 32bit	PASS	
1920*1200	16 / 32bit	PASS	

## 2.5 Audio

Test environment:

OS Windows XP professional SP2 32-bit

Driver version : 5.10.0.6194

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	CDIN	PASS	

OS Windows XP professional SP2 64-bit

Driver version : 5.10.0.6194

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	CDIN	PASS	

OS Windows Server 2003 32-bit

Driver version : 5.10.0.6194

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	CDIN	PASS	

OS Windows Server 2003 64-bit

Driver version : 5.10.0.6194

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	CDIN	PASS	



**OS Windows Vista 32 bit**  
**Driver version : 6.0.1.6083**

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	CDIN	PASS	

**OS Windows Vista 64 bit**  
**Driver version : 6.0.1.6083**

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	CDIN	PASS	

**OS Windows Server 2008 32-bit**  
**Driver version : 6.0.1.6083**

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	CDIN	PASS	

**OS Windows Server 2008 64-bit**  
**Driver version : 6.0.1.6083**

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	CDIN	PASS	

**OS Windows 7 32-bit**  
**Driver version : 6.0.1.6083**

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	CDIN	PASS	

**OS Windows 7 64-bit**  
**Driver version : 6.0.1.6083**

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	CDIN	PASS	

## 2.6 HDD Test

Test environment:

OS Windows XP professional SP2

Model	Interface	Capacity	Size Detect	Data Transfer
Western Digital WD3200AAKS-00B3A0	SATA	320 GB	PASS	PASS
Western Digital WD3200AAJS-00YZCA0	SATA	320 GB	PASS	PASS
Western Digital WD5000AAKX-22ERMA0	SATA	500 GB	PASS	PASS
Western Digital WD10EARS-00Y5B1	SATA	1 TB	PASS	PASS
Western Digital WD10EALX-009BA0	SATA	1 TB	PASS	PASS

## 2.7 DVD-ROM Test

Test environment:

OS Windows XP professional SP2

Model	Interface	Detect	Data Transfer	Play DVD
ASUS DRW-24D1ST	SATA	PASS	PASS	PASS
LITE-ON eTAU108	USB	PASS	PASS	PASS
BUFFALO DVSM-PC58U2V	USB	PASS	PASS	PASS

## 2.8 USB device Test

### 1. Windows XP SP2 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	

### 2. Windows Server 2003 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 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	

#### 4. Windows Server 2008 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	

#### 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	

## 2.9 Serial Port Test

### 1. MS-DOS

Item	Description	Result	Remark
1	RS-422 & RS-485	PASS	
2	CHKIT	PASS	

### 2. Windows XP SP2 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 XP SP2 64-bit

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

### 4. Windows Server 2003 32-bit

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

**5. Windows Server 2003 64-bit**

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

**6. Windows Vista 32-bit**

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

**7. Windows Vista 64-bit**

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

**8. 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	

**9. Windows Server 2008 64-bit**

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



**10. Windows 7 32-bit**

<b>Item</b>	<b>Description</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>Device Manager Check</b>	PASS	
<b>2</b>	<b>RS-232 Mouse Test</b>	PASS	

**11. Windows 7 64-bit**

<b>Item</b>	<b>Description</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>Device Manager Check</b>	PASS	
<b>2</b>	<b>RS-232 Mouse Test</b>	PASS	

## 2.10 PS2 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 XP SP2 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 2003 32/64-bit

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

### 4. 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	

**5. Windows server 2008 32/64-bit**

<b>Item</b>	<b>Description</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>Keyboard LED Status Test</b>	PASS	
<b>2</b>	<b>Keyboard Typing Test</b>	PASS	
<b>3</b>	<b>Mouse Detect Test</b>	PASS	

**6. Windows 7 32/64-bit**

<b>Item</b>	<b>Description</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>Keyboard LED Status Test</b>	PASS	
<b>2</b>	<b>Keyboard Typing Test</b>	PASS	
<b>3</b>	<b>Mouse Detect Test</b>	PASS	

## 2.11 LAN Test

Data Transfer Test environment:

-CAT 6 UTP 100M

-8 HR. continuous

1. Windows XP SP2 32/64-bit

32/64-bit driver version : 11.15.12.0

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

2. Windows Server 2003 32/64-bit

32/64-bit driver version : 11.15.12.0

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

3. Windows Vista 32/64-bit

32/64-bit driver version : 11.15.12.0

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

4. Windows Server 2008 32/64-bit

32/64-bit driver version : 11.15.12.0

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

**5. Windows Server 7 32/64-bit**

**32/64-bit driver version : 11.15.12.0**

Item	Description	Result	Remark
1	Device Manager Check	PASS	

## 2.12 Power Supply Test

Item	Type	Description	Result	Remark
1	Adapter	LI SHIN 0219B1280 80W	PASS	
2	Adapter	LI SHIN 0227B19120 120W	PASS	
3	ATX Power	AcBel ATX-350P-DNSS 350W	PASS	
4	ATX Power	Seasonic SS-330HB 330W	PASS	

## 2.13 PCI Express mini card

Motherboard	PCI Express mini card	Remark
LE-37ANB LE-37AC6 LE-37ABU	MPX-954	PASS
	MPX-954E	PASS
	MPX-827	PASS
	MPX-574D	PASS
	MPX-574D2	PASS
	MPX-643	PASS
	MPX-750	PASS
	MPX-885	PASS
	MPX-3132	PASS
	MPX-5201	PASS
	MPX-6864	PASS
	MPX-7202	PASS
	MPX-9125	PASS
	MPX-TP4R	PASS
MPX-SDVOD	Only Mini Card 1	

**These boards can't use mSATA.**

**Attention: MPX-3132 needs to into BIOS setting**

**=> Advanced => South Bridge Configuration**

**=> SB PCI Express Config**

**=> PCI Express Root Port 3 & 5**

**=> PCIe Speed [Gen1]**

**Then load driver to usb floppy from**

<http://www.siliconimage.com/support/searchresults.aspx?pid=32&cat=3>

Motherboard	PCI Express mini card	Remark
<b>LE-37ANBS</b> <b>LE-37AC6S</b> <b>LE-37ABUS</b>	<b>MPX-954</b>	Only Mini Card 1
	<b>MPX-954E</b>	Only Mini Card 1
	<b>MPX-827</b>	PASS
	<b>MPX-574D</b>	Only Mini Card 1
	<b>MPX-574D2</b>	Only Mini Card 1
	<b>MPX-643</b>	Only Mini Card 1
	<b>MPX-750</b>	PASS
	<b>MPX-885</b>	Only Mini Card 1
	<b>MPX-3132</b>	Only Mini Card 1
	<b>MPX-5201</b>	Only Mini Card 1
	<b>MPX-6864</b>	Only Mini Card 1
	<b>MPX-7202</b>	Only Mini Card 1
	<b>MPX-9125</b>	Only Mini Card 1
	<b>MPX-TP4R</b>	PASS
<b>MPX-SDVOD</b>	Only Mini Card 1	

**These boards can use mSATA to Mini Card 2.**

**Attention: MPX-3132 needs to into BIOS setting**

**=> Advanced => South Bridge Configuration**

**=> SB PCI Express Config**

**=> PCI Express Root Port 3**

**=> PCIe Speed [Gen1]**

**Then load driver to usb floppy from**

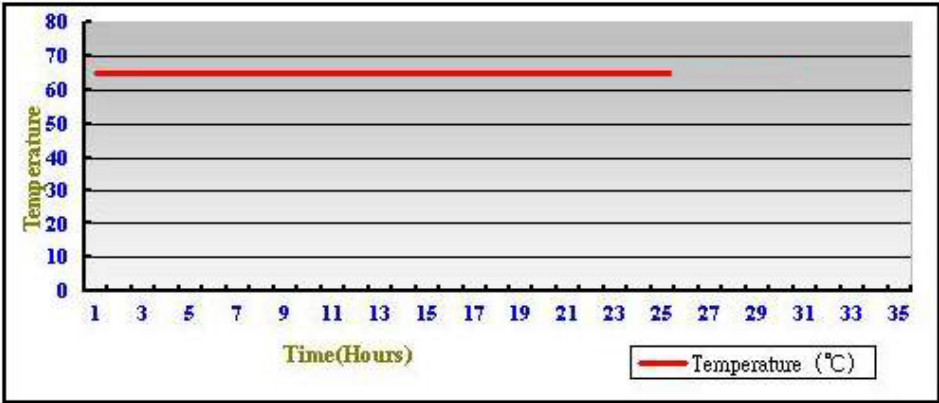
<http://www.siliconimage.com/support/searchresults.aspx?pid=32&cat=3>



### 3. Environmental test

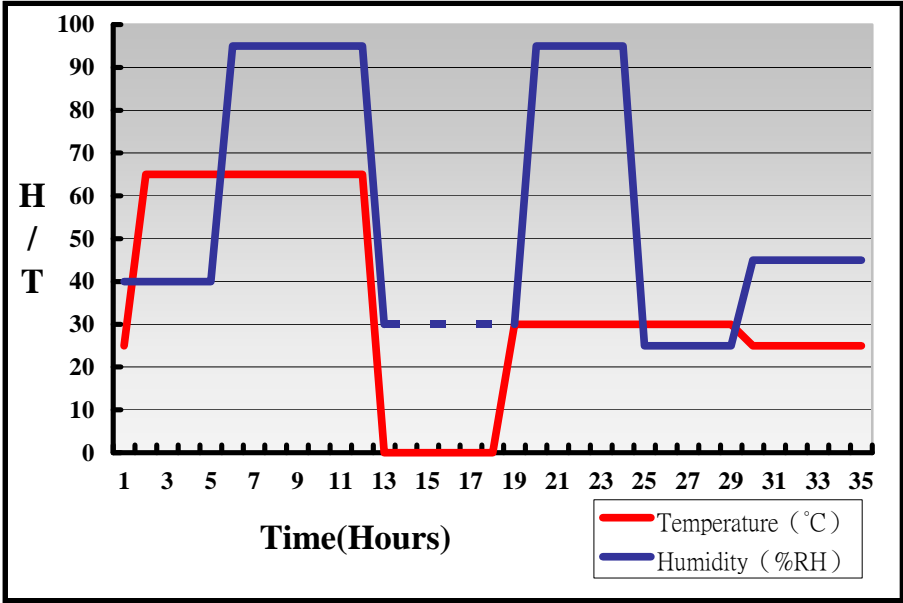
#### 3.1 Temperature Test

System Board	LE-37ABU_A
CPU	Intel(R) Celeron(TM) 847E 1.10GHz
Memory	Kingston DDR3 1600 8GB (J420BBBG-GN-F)
HDD	Western Digital WD5000AAKX-22ERMA0 500GB
Operating OS	Windows XP 64-bit
Test Equipment	GIANT FORCE (GTH-150-60-CP-AR)
Test Program	3DMark 2003



**Hardware Device list:**

System Board	LE-37ABU_A
CPU	Intel(R) Celeron(TM) 847E 1.10GHz
Memory	Transcend DDR3 1066 1GB (K4B1G0846D)
HDD	Western Digital WD3200AAKS-00B3A0 320GB
Operating OS	Windows XP
Test Equipment	GIANT FORCE (GTH-150-60-CP-AR)
Test Program	3DMark 2003



**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:**

<b>System Board</b>	<b>LE-37ABU_A</b>
<b>CPU</b>	<b>Intel(R) Celeron(TM) 847E 1.10GHz</b>
<b>Memory</b>	<b>Kingston DDR3 1600 8GB (J420BBBG-GN-F)</b>
<b>HDD</b>	<b>Western Digital WD10EALX-009BA0 1.0TB</b>

<b>Temperature</b>	<b>Result</b>	<b>Remark</b>
<b>80°C</b>	<b>PASS</b>	<b>50 Times</b>
<b>-10°C</b>	<b>PASS</b>	<b>50 Times</b>

### 3.2 Thermal measurements at various points on the board

Test Environment :

<b>CPU</b>	<b>Intel(R) Celeron(TM) 847E 1.10GHz</b>
<b>Memory</b>	<b>Kingston DDR3 1600 8GB (J420BBBG-GN-F)</b>
<b>HDD</b>	<b>Western Digital WD10EALX-009BA0 1.0TB</b>
<b>Adapter</b>	<b>LI SHIN 0219B1280</b>
<b>Operating System</b>	<b>Windows XP SP2 64-bit</b>
<b>Test Program</b>	<b>BurnIn 6.0</b>

Test Result:

<b>Item</b>	<b>Environmental temperature</b>	<b>27°C</b>
<b>1</b>	<b>CPU</b>	<b>51°C</b>
<b>2</b>	<b>PCH (HM65)</b>	<b>53.9°C</b>
<b>3</b>	<b>LPCIO (ICH83627DHG-P+OBLPMB-1)</b>	<b>46.9°C</b>
<b>4</b>	<b>U2 (ISL95831HRTZ)</b>	<b>44.3°C</b>
<b>5</b>	<b>U8 (ICADM213ECA-T)</b>	<b>44.2°C</b>
<b>6</b>	<b>U21 (ICADM213ECA-T)</b>	<b>46.7°C</b>
<b>7</b>	<b>U29 (ICHALC888)</b>	<b>55.7°C</b>
<b>8</b>	<b>Q35 (TREL1117LG)</b>	<b>49.5°C</b>
<b>9</b>	<b>Q43(TMSIRFH7914PBF)</b>	<b>45.2°C</b>
<b>10</b>	<b>Q62(TRE1085)</b>	<b>54.4°C</b>



## 4. Reliability Test

### 4.1 Power Consumption Test

#### 1. Test Environment:

Motherboard	LE-37ABU_A
CPU	Intel(R) Celeron(TM) 847E 1.1GHz
Memory	Kingston DDR3 1600 8GB (J420BBBG-GN-F)
HDD	Western Digital WD10EALX-009BA0 1.0TB

Adapter : LI SHIN 0219B1280

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
12V	2.75	33	3.04	36.48

#### 1.a. Test Environment:

The same as above but with LCD panel

Display Panel	AUO M170EG01 17"LCD
---------------	---------------------

Adapter : LI SHIN 0219B1280

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
12V	3.96	47.52	4.96	59.52

## 2.Test Environment:

Motherboard	LE-37ABU_A
CPU	Intel(R) Celeron(TM) 847E 1.1GHz
Memory	Kingston DDR3 1600 8GB (J420BBBG-GN-F)
HDD	Western Digital WD3200AAKS-00B3A0 320GB

Adapter : LI SHIN 0227B19120

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
19V	1.86	35.34	1.99	37.81

## 2.a.Test Environment:

The same as above but with LCD panel

Display Panel	AUO M170EG01 17"LCD
---------------	---------------------

Adapter: LI SHIN 0227B19120

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
19V	2.63	49.97	3.23	61.37

### 3.Test Environment:

Motherboard	LE-37AC6_A
CPU	Intel(R) Celeron(TM) 827E 1.4GHz
Memory	Kingston DDR3 1600 8GB (J420BBBG-GN-F)
HDD	Western Digital WD10EARS-00Y5B1 1TB

Adapter : LI SHIN 0219B1280

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
12V	2.25	27	2.58	30.96

### 3.a.Test Environment:

The same as above but with LCD panel

Display Panel	AUO M170EG01 17"LCD
---------------	---------------------

Adapter : LI SHIN 0219B1280

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
12V	3.91	46.92	4.68	56.16



**4.Test Environment:**

Motherboard	LE-37AC6_A
CPU	Intel(R) Celeron(TM) 827E 1.4GHz
Memory	Kingston DDR3 1600 8GB (J420BBBG-GN-F)
HDD	Western Digital WD10EARS-00Y5B1 1TB

**Adapter : LI SHIN 0227B19120**

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
19V	1.4	26.6	1.7	32.3

**4.a.Test Environment:**

The same as above but with LCD panel

Display Panel	AUO M170EG01 17”LCD
---------------	---------------------

**Adapter: LI SHIN 0227B19120**

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
19V	2.51	47.69	2.96	56.81

## 5. Performance Test

### 5.1 Content Creation Winstone 2004

Windows XP SP2

Weighted Suite	Test Environment	Result	Remark
Content Creation Winstone 2004	Intel(R) Celeron(TM) 847E 1.1GHz Kingston DDR3 1600 8GB (J420BBBG-GN-F) Western Digital WD3200AAKS-00B3A0 320GB	PASS	28.2 28.2 28.2 28.3
Content Creation Winstone 2004	Intel(R) Celeron(TM) 847E 1.1GHz Kingston DDR3 1333 4GB (D2568JPTCPGD9U) Western Digital WD3200AAKS-00B3A0 320GB	PASS	27.5 28.2 28.2 28.2
Content Creation Winstone 2004	Intel(R) Celeron(TM) 827E 1.4GHz ADATA DDR3 1066 2GB (H57Q1G83AFP) Western Digital WD10EARS-00Y5B1 1TB	PASS	32 32.6 29.8 32.3

## 5.2 3D MARK(2001、2003、2005)

Windows XP SP2 32-bit

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Score	Intel(R) Celeron(TM) 847E 1.1GHz	PASS	7107
3DMARK2003 Score	ADATA DDR3 1066 2GB (H57Q1G83AFP)	PASS	4547
3DMARK2005 Score	Western Digital WD10EALX-009BA0 1.0TB	PASS	2869

Windows XP SP2 32-bit

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Score	Intel(R) Celeron(TM) 847E 1.1GHz	PASS	7091
3DMARK2003 Score	Transcend DDR3 1066 2GB (K4B1G0846D)	PASS	4565
3DMARK2005 Score	Western Digital WD10EALX-009BA0 1.0TB	PASS	2909

**Windows XP SP2 64-bit**

<b>WEIGHTED SUITE</b>	<b>Test Environment</b>	<b>Result</b>	<b>Remark</b>
<b>3DMARK2001 Score</b>	<b>Intel(R) Celeron(TM) 847E 1.1GHz Kingston DDR3 1600 8GB (J420BBBG-GN-F) Western Digital WD10EALX-009BA0 1TB</b>	PASS	7581
<b>3DMARK2003 Score</b>		PASS	3500
<b>3DMARK2005 Score</b>		PASS	3061

**Windows XP SP2 32-bit**

<b>WEIGHTED SUITE</b>	<b>Test Environment</b>	<b>Result</b>	<b>Remark</b>
<b>3DMARK2001 Score</b>	<b>Intel(R) Celeron(TM) 847E 1.1GHz Kingston DDR3 1333 4GB (D2568JPTCPGD9U) Western Digital WD3200AAKS-00B3A0 320GB</b>	PASS	7549
<b>3DMARK2003 Score</b>		PASS	4923
<b>3DMARK2005 Score</b>		PASS	3115

**Windows XP SP2 64-bit**

<b>WEIGHTED SUITE</b>	<b>Test Environment</b>	<b>Result</b>	<b>Remark</b>
<b>3DMARK2001 Score</b>	<b>Intel(R) Celeron(TM) 827E 1.4GHz</b>	<b>PASS</b>	<b>8672</b>
<b>3DMARK2003 Score</b>	<b>Kingston DDR3 1600 8GB (J420BBBG-GN-F)</b>	<b>PASS</b>	<b>4981</b>
<b>3DMARK2005 Score</b>	<b>Western Digital WD10EARS-00Y5B1 1TB</b>	<b>PASS</b>	<b>3249</b>

**5.3 3D MARK2006**

**Windows XP SP2 32-bit**

<b>Item</b>	<b>WEIGHTED SUITE</b>	<b>Test Environment</b>	<b>Result</b>	<b>Remark</b>
1	3DMARK Score	<b>Intel(R) Celeron(TM) 847E 1.1GHz</b> <b>ADATA DDR3 1066 2GB</b> <b>(H57Q1G83AFP)</b> <b>Western Digital</b> <b>WD10EALX-009BA0 1TB</b>	PASS	1794
2	SM2.0 Score		PASS	668
3	HDR/SM3.0 Score		PASS	687
4	CPU Score		PASS	1078

**Windows XP SP2 32-bit**

<b>Item</b>	<b>WEIGHTED SUITE</b>	<b>Test Environment</b>	<b>Result</b>	<b>Remark</b>
1	3DMARK Score	<b>Intel(R) Celeron(TM) 847E 1.1GHz</b> <b>Transcend DDR3 1066 2GB</b> <b>(K4B1G0846D)</b> <b>Western Digital</b> <b>WD10EALX-009BA0 1TB</b>	PASS	1821
2	SM2.0 Score		PASS	682
3	HDR/SM3.0 Score		PASS	699
4	CPU Score		PASS	1062

**Windows XP SP2 64-bit**

<b>Item</b>	<b>WEIGHTED SUITE</b>	<b>Test Environment</b>	<b>Result</b>	<b>Remark</b>
1	3DMARK Score	<b>Intel(R) Celeron(TM) 847E 1.1GHz</b> <b>Kingston DDR3 1600 8GB</b> <b>(J420BBBG-GN-F)</b> <b>Western Digital</b> <b>WD10EALX-009BA0 1TB</b>	PASS	1710
2	SM2.0 Score		PASS	611
3	HDR/SM3.0 Score		PASS	670
4	CPU Score		PASS	1113

**Windows XP SP2 32-bit**

<b>Item</b>	<b>WEIGHTED SUITE</b>	<b>Test Environment</b>	<b>Result</b>	<b>Remark</b>
1	3DMARK Score	<b>Intel(R) Celeron(TM) 847E 1.1GHz</b> <b>Kingston DDR3 1333 4GB</b> <b>(D2568JPTCPGD9U)</b> <b>Western Digital</b> <b>WD3200AAKS-00B3A0 320GB</b>	PASS	1990
2	SM2.0 Score		PASS	746
3	HDR/SM3.0 Score		PASS	772
4	CPU Score		PASS	1101

**Windows XP SP2 64-bit**

<b>Item</b>	<b>WEIGHTED SUITE</b>	<b>Test Environment</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>3DMARK Score</b>	<b>Intel(R) Celeron(TM) 827E 1.4GHz Kingston DDR3 1600 8GB (J420BBBG-GN-F) Western Digital WD10EARS-00Y5B1 1TB</b>	PASS	1816
<b>2</b>	<b>SM2.0 Score</b>		PASS	711
<b>3</b>	<b>HDR/SM3.0 Score</b>		PASS	745
<b>4</b>	<b>CPU Score</b>		PASS	719



## 5.4 PC MARK2002

<b>Test Environment</b>
<b>Intel(R) Celeron(TM) 847E 1.1GHz ADATA DDR3 1066 2GB (H57Q1G83AFP) Western Digital WD10EALX-009BA0 1.0TB</b>

Windows XP SP2 32-bit

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>CPU Score</b>	PASS	4160
<b>2</b>	<b>Memory Score</b>	PASS	13886
<b>3</b>	<b>HDD Score</b>	PASS	2582

<b>Test Environment</b>
<b>Intel(R) Celeron(TM) 847E 1.1GHz Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD10EALX-009BA0 1.0TB</b>

Windows XP SP2 32-bit

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>CPU Score</b>	PASS	4498
<b>2</b>	<b>Memory Score</b>	PASS	15250
<b>3</b>	<b>HDD Score</b>	PASS	2286

<b>Test Environment</b>
<b>Intel(R) Celeron(TM) 847E 1.1GHz</b> <b>Kingston DDR3 1600 8GB (J420BBBG-GN-F)</b> <b>Western Digital WD10EALX-009BA0 1.0TB</b>

**Windows XP SP2 64-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>CPU Score</b>	PASS	4531
<b>2</b>	<b>Memory Score</b>	PASS	15833
<b>3</b>	<b>HDD Score</b>	PASS	2848

<b>Test Environment</b>
<b>Intel(R) Celeron(TM) 847E 1.1GHz</b> <b>Kingston DDR3 1333 4GB (D2568JPTCPGD9U)</b> <b>Western Digital WD3200AAKS-00B3A0 320GB</b>

**Windows XP SP2 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>CPU Score</b>	PASS	4487
<b>2</b>	<b>Memory Score</b>	PASS	16614
<b>3</b>	<b>HDD Score</b>	PASS	2223

<b>Test Environment</b>
<b>Intel(R) Celeron(TM) 827E 1.4GHz</b> <b>Kingston DDR3 1600 8GB (J420BBBG-GN-F)</b> <b>Western Digital WD10EARS-00Y5B1 1TB</b>

**Windows XP SP2 64-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>CPU Score</b>	PASS	5738
<b>2</b>	<b>Memory Score</b>	PASS	17112
<b>3</b>	<b>HDD Score</b>	PASS	2012

## 5.5 PC MARK2004

<b>Test Environment</b>
<b>Intel(R) Celeron(TM) 847E 1.1GHz ADATA DDR3 1066 2GB (H57Q1G83AFP) Western Digital WD10EALX-009BA0 1TB</b>

Windows XP PS2 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark Score	PASS	4050
2	CPU Score	PASS	4132
3	Memory Score	PASS	4364
4	Graphic Score	PASS	2210
5	HDD Score	PASS	5679

<b>Test Environment</b>
<b>Intel(R) Celeron(TM) 847E 1.1GHz Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD10EALX-009BA0 1TB</b>

Windows XP PS2 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark Score	PASS	4070
2	CPU Score	PASS	4127
3	Memory Score	PASS	4366
4	Graphic Score	PASS	2212
5	HDD Score	PASS	5582

<b>Test Environment</b>
<b>Intel(R) Celeron(TM) 847E 1.1GHz</b> <b>Kingston DDR3 1600 8GB (J420BBBG-GN-F)</b> <b>Western Digital WD10EALX-009BA0 1TB</b>

**Windows XP PS2 64-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PCMark Score</b>	PASS	N/A
<b>2</b>	<b>CPU Score</b>	PASS	4126
<b>3</b>	<b>Memory Score</b>	PASS	4542
<b>4</b>	<b>Graphic Score</b>	PASS	2298
<b>5</b>	<b>HDD Score</b>	PASS	N/A

<b>Test Environment</b>
<b>Intel(R) Celeron(TM) 847E 1.1GHz</b> <b>Kingston DDR3 1333 4GB (D2568JPTCPGD9U)</b> <b>Western Digital WD3200AAKS-00B3A0 320GB</b>

**Windows XP PS2 32-bit**

<b>Item</b>	<b>WEIGHTED SUITE</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PCMark Score</b>	PASS	4183
<b>2</b>	<b>CPU Score</b>	PASS	4141
<b>3</b>	<b>Memory Score</b>	PASS	4720
<b>4</b>	<b>Graphic Score</b>	PASS	2509
<b>5</b>	<b>HDD Score</b>	PASS	N/A

<b>Test Environment</b>
<b>Intel(R) Celeron(TM) 827E 1.4GHz</b> <b>Kingston DDR3 1600 8GB (J420BBBG-GN-F)</b> <b>Western Digital WD10EARS-00Y5B1 1TB</b>

**Windows XP PS2 64-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PCMark Score</b>	PASS	3555
<b>2</b>	<b>CPU Score</b>	PASS	3499
<b>3</b>	<b>Memory Score</b>	PASS	5199
<b>4</b>	<b>Graphic Score</b>	PASS	2555
<b>5</b>	<b>HDD Score</b>	PASS	4262

## 5.6 PC MARK2005

<b>Test Environment</b>
<b>Intel(R) Celeron(TM) 847E 1.1GHz ADATA DDR3 1066 2GB (H57Q1G83AFP) Western Digital WD10EALX-009BA0 1TB</b>

Windows XP SP2 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark Score	PASS	3224
2	CPU Score	PASS	3107
3	Memory Score	PASS	4023
4	Graphic Score	PASS	2018
5	HDD Score	PASS	5920

<b>Test Environment</b>
<b>Intel(R) Celeron(TM) 847E 1.1GHz Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD10EALX-009BA0 1TB</b>

Windows XP SP2 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark Score	PASS	3240
2	CPU Score	PASS	3104
3	Memory Score	PASS	4023
4	Graphic Score	PASS	2043
5	HDD Score	PASS	6135

<b>Test Environment</b>
<b>Intel(R) Celeron(TM) 847E 1.1GHz</b> <b>ADATA DDR3 1066 1GB (J1108BDBG-DJ-F)</b> <b>Western Digital WD10EALX-009BA0 1TB</b>

**Windows XP SP2 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PCMark Score</b>	PASS	3270
<b>2</b>	<b>CPU Score</b>	PASS	3062
<b>3</b>	<b>Memory Score</b>	PASS	4028
<b>4</b>	<b>Graphic Score</b>	PASS	2025
<b>5</b>	<b>HDD Score</b>	PASS	6870

<b>Test Environment</b>
<b>Intel(R) Celeron(TM) 847E 1.1GHz</b> <b>Kingston DDR3 1600 8GB (J420BBBG-GN-F)</b> <b>Western Digital WD10EALX-009BA0 1TB</b>

**Windows XP SP2 64-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PCMark Score</b>	PASS	N/A
<b>2</b>	<b>CPU Score</b>	PASS	3074
<b>3</b>	<b>Memory Score</b>	PASS	3942
<b>4</b>	<b>Graphic Score</b>	PASS	1957
<b>5</b>	<b>HDD Score</b>	PASS	7341



<b>Test Environment</b>
<b>Intel(R) Celeron(TM) 847E 1.1GHz</b> <b>A-DATA DDR3 1066 1GB (K4B1G0846D)</b> <b>Western Digital WD3200AAKS-00B3A0 320GB</b>

**Windows XP SP2 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
1	PCMark Score	PASS	N/A
2	CPU Score	PASS	3061
3	Memory Score	PASS	4043
4	Graphic Score	PASS	1985
5	HDD Score	PASS	6650

<b>Test Environment</b>
<b>Intel(R) Celeron(TM) 847E 1.1GHz</b> <b>Kingston DDR3 1333 4GB (D2568JPTCPGD9U)</b> <b>Western Digital WD3200AAKS-00B3A0 320GB</b>

**Windows XP SP2 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
1	PCMark Score	PASS	3302
2	CPU Score	PASS	3108
3	Memory Score	PASS	4085
4	Graphic Score	PASS	2125
5	HDD Score	PASS	6897

<b>Test Environment</b>
<b>Intel(R) Celeron(TM) 847E 1.1GHz</b> <b>Transcend DDR3 1066 1GB (J1108BDBG-DJ-F)</b> <b>Western Digital WD3200AAKS-00B3A0 320GB</b>

**Windows XP SP2 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
1	PCMark Score	PASS	3308
2	CPU Score	PASS	3110
3	Memory Score	PASS	4038
4	Graphic Score	PASS	1934
5	HDD Score	PASS	6773

<b>Test Environment</b>
<b>Intel(R) Celeron(TM) 827E 1.4GHz</b> <b>Kingston DDR3 1600 8GB (J420BBBG-GN-F)</b> <b>Western Digital WD10EARS-00Y5B1 1TB</b>

**Windows XP SP2 64-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
1	PCMark Score	PASS	2659
2	CPU Score	PASS	2811
3	Memory Score	PASS	4916
4	Graphic Score	PASS	2165
5	HDD Score	PASS	4418

## 5.7 Storage Performance

### 5.7.1 HDD

Test environment:

OS Windows XP professional SP2

Program (HD Tune)

HDD Model	Interface	Capacity	Average	Burst Rate	Access time
Western Digital WD3200AAKS-00B3A0	SATA	320 GB	92.3 MB/sec	99.0 MB/sec	15.9 ms
Western Digital WD3200AAJS-00YZCA0	SATA	320 GB	87.4 MB/sec	10.3 MB/sec	15.9 ms
Western Digital WD5000AAKX-22ERMA0	SATA	500 GB	100.9 MB/sec	153.7 MB/sec	15.4 ms
Western Digital WD10EARS-00Y5B1	SATA	1 TB	76.1 MB/sec	101.5 MB/sec	15.7 ms
Western Digital WD10EALX-009BA0	SATA	1 TB	99.1 MB/sec	187.6 MB/sec	13.0 ms
ADATA Flash Drive C906	USB	8 GB	13.5 MB/sec	13.9 MB/sec	1.0 ms
TDK LoR Trans-It Drive	USB	4 GB	14.4 MB/sec	10.9 MB/sec	1.0 ms

## 5.7.2 DVD-ROM

Test environment:

OS Windows XP professional SP2

Program (NERO)

CD-ROM Model	Interface	Average Speed	Full Read	Burst Rate	DVD
ASUS DRW-24D1ST	SATA	34.20 x	170 ms	41 MB/s	16 X DVD+R
LITE-ON eTAU108	USB	7.05 x	300 ms	17 MB/s	16 X DVD+R
BUFFALO DVSM-PC58U2V	USB	5.11 x	207 ms	19 MB/s	16 X DVD+R