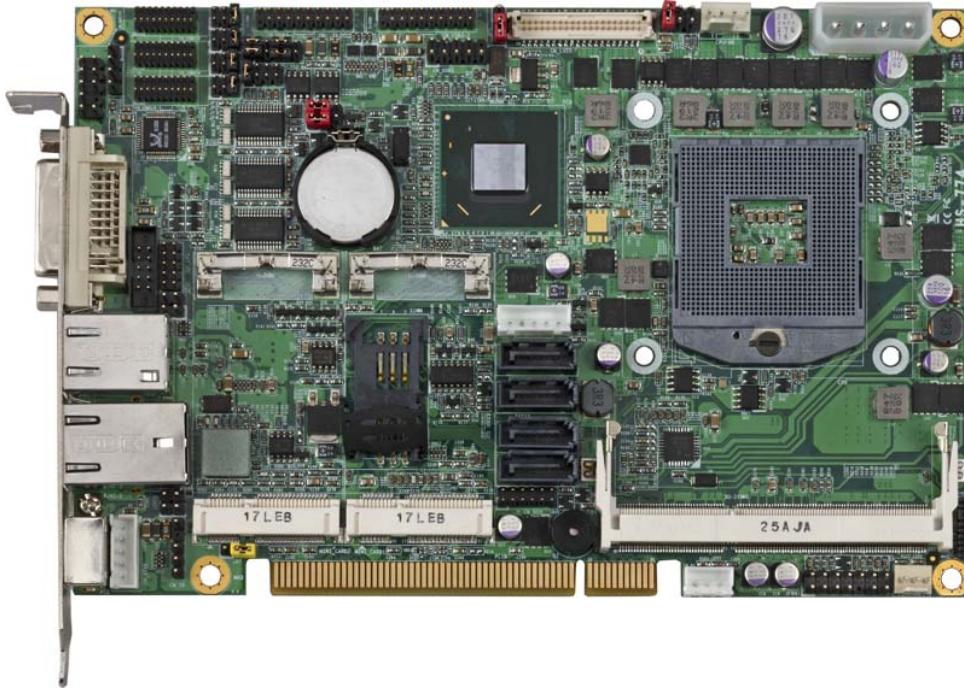


# Product Test Report



<b>Product Name</b>	<b>HS-774</b>
<b>Product Version</b>	<b>A</b>
<b>Issued Date</b>	<b>2012.12.21</b>
<b>Report Edition</b>	<b>1.0</b>
<b>BIOS Version</b>	<b>1.0</b>
<b>Testing Engineer</b>	<b>RICK</b>
<b>Check Engineer</b>	<b>JEFF</b>

<b>REVISION HISTORY</b>			
<b>DATE</b>	<b>REVISION NO.</b>	<b>PAGE</b>	<b>DESCRIPTONS</b>
2012.12.21	Ver. 1.0	59	Initial Release

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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	SATA 1/2/3/4	PASS
6	USB3.0 1/2/3/4	PASS
7	CN_USB 1/2	PASS
8	DDRIII 1/2	PASS
9	CN_COM 1/2/3/4/5/6	PASS
10	VGA Port	PASS
11	PS2	PASS
12	CN_AUDIO	PASS
13	CD_IN	PASS
14	CN_DIO	PASS
15	CPUFAN	PASS
16	SYSFAN	PASS
17	Mini Card 1/2	PASS
18	CN_DVI	PASS
19	CN_LVDS	PASS
20	CN_INV	PASS
21	LAN1/2	PASS
22	IrDA	PASS

23	DC_IN	PASS
24	CN_IR	PASS
25	PCI Card (VGA / LAN by CBP-5P4)	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	Quick Boot	PASS	
7	Diagnostic Splash Screen	PASS	
8	Diagnostic Summary Screen	PASS	
9	Console Redirection	PASS	Flow control => None
10	Clear Error Manager Log	PASS	
11	Active Processor Cores	PASS	
12	Intel(R) HT Technology	PASS	
13	SATA Device	PASS	
14	Interface Combination(IDE / AHCI / RAID)	PASS	OS(Win7 32Bit) RAID only support SATA 1/2/3
15	Max TOLUD	PASS	
16	DVMT Total Gfx Mem	PASS	
17	Boot Type (CRT / DVI / LVDS)	PASS	
18	LCD Panel Type (1280x1024)	PASS	
19	Panel Color Depth (24Bit)	PASS	
20	USB Per-Port Disable Control	PASS	
21	Azalia	PASS	
22	PCH Internal LAN	PASS	It sets to 82579LM

23	LAN OPROM Selection	PASS	
24	Intel(R) AMT	PASS	It needs set Enabled
25	Serial Port	PASS	
26	IR Func.	PASS	
27	Watch Dog Timer	PASS	
28	CPU Warning Temp	PASS	
29	CPU Fan Control	PASS	
30	Power On By RTC Alarm	PASS	
31	Set Supervisor Password	PASS	
32	Set User password	PASS	



### 1.3 Driver

#### CD Edition : IPCi5-1.0

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

Item	Description	Result	Version
1	Chipset Driver	PASS	9.3.0.1019
2	VGA Driver	PASS	6.14.10.5407
3	Audio Driver	PASS	5.10.0.6083
4	LAN Driver (82574L)	PASS	11.14.48.0
5	LAN Driver (82579LM)	PASS	11.13.51.0

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

Item	Description	Result	Version
1	Chipset Driver	PASS	9.3.0.1019
2	VGA Driver	PASS	6.14.10.5407
3	Audio Driver (Need UAA bus driver)	PASS	5.10.0.6083
4	LAN Driver (82574L)	PASS	11.17.27.0
5	LAN Driver (82579LM)	PASS	11.16.96.0

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

Item	Description	Result	Version
1	Chipset Driver	PASS	9.3.0.1019
2	Audio Driver	PASS	5.10.0.6083
3	LAN Driver (82574L)	PASS	11.14.48.0
4	LAN Driver (82579LM)	PASS	11.13.51.0

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

Item	Description	Result	Version
1	Chipset Driver	PASS	9.3.0.1019
2	Audio Driver	PASS	5.10.0.6083
3	LAN Driver (82574L)	PASS	11.17.27.0
4	LAN Driver (82579LM)	PASS	11.16.96.0

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

Item	Description	Result	Version
1	Chipset Driver	PASS	9.3.0.1019
2	VGA Driver	PASS	8.15.10.2696
3	Audio Driver	PASS	6.0.1.6083
4	LAN Driver (82574L)	PASS	11.14.48.0
5	LAN Driver (82579LM)	PASS	11.15.12.0

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

Item	Description	Result	Version
1	Chipset Driver	PASS	9.3.0.1019
2	VGA Driver	PASS	8.15.10.2761
3	Audio Driver	PASS	6.0.1.6083
4	LAN Driver (82574L)	PASS	11.14.48.0
5	LAN Driver (82579LM)	PASS	11.15.12.0

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

Item	Description	Result	Version
1	Chipset Driver	PASS	9.3.0.1019
2	Audio Driver	PASS	6.0.1.6083
3	LAN Driver (82574L)	PASS	11.14.48.0
4	LAN Driver (82579LM)	PASS	11.15.12.0

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

Item	Description	Result	Version
1	Chipset Driver	PASS	9.3.0.1019
2	Audio Driver	PASS	6.0.1.6083
3	LAN Driver (82574L)	PASS	11.14.48.0
4	LAN Driver (82579LM)	PASS	11.15.12.0

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

Item	Description	Result	Version
1	Chipset Driver	PASS	9.3.0.1019
2	VGA Driver	PASS	8.15.10.2696
3	Audio Driver	PASS	6.0.1.6083
4	LAN Driver (82574L)	PASS	11.14.48.0
5	LAN Driver (82579LM)	PASS	11.13.51.0

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

Item	Description	Result	Version
1	Chipset Driver	PASS	9.3.0.1019
2	VGA Driver	PASS	8.15.10.2761
3	Audio Driver	PASS	6.0.1.6083
4	LAN Driver (82574L)	PASS	11.14.48.0
5	LAN Driver (82579LM)	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="#">SHOWM</a>	2.40 GHz	Core	i3-3120ME	5 GT/s	3 MB	PASS
<a href="#">SR02U</a>	2.50 GHz	Core	i5-2510E	5 GT/s	3 MB	PASS
<a href="#">SR02T</a>	2.10 GHz	Core	i7-2710QE	5 GT/s	6 MB	PASS
<a href="#">SR0MZ</a>	2.50 GHz	Core	i5-3210M	5 GT/s	3 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	
11	Cent OS 6 (2.6.32-220.el6.i686)	PASS	

## 2.3 Memory Test

Test environment:

OS Windows XP professional SP2

Test program : PC MARK 2005

Manufacturer	Chip	Frequency	Capacity Mbytes	Result
ADATA	K4B1G0846D	DDR3 1066	1 GB	PASS
ADATA	H57Q1G83AFP	DDR3 1066	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 : 6.14.10.5407

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	
1920*1080	16 / 32bit	PASS	
1920*1200	16 / 32bit	PASS	



## 2.5 Audio

Test environment:

OS Windows XP professional SP2 32-bit

Driver version : 5.10.0.6083

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

OS Windows XP professional SP2 64-bit

Driver version : 5.10.0.6083

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

OS Windows Server 2003 32-bit

Driver version : 5.10.0.6083

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

OS Windows Server 2003 64-bit

Driver version : 5.10.0.6083

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 WD10EADS-00P8B0	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-bit driver version : 11.13.51.0 ; 64-bit driver version : 11.16.96.0

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

2. Windows Server 2003 32/64-bit

32-bit driver version : 11.13.51.0 ; 64-bit driver version : 11.16.96.0

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-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	ATX Power	CHANNEL WELL TECHNOLOGY CWT-300ATX12	PASS	
2	ATX Power	AcBel ATX-350P-DNSS	PASS	
3	ATX Power	AcBel PC7008 380W	PASS	
4	ATX Power	Seasonic SS-300HB 330W	PASS	
5	ATX Power	Seasonic SS-500ET 500W	PASS	
6	ATX Power	MOREX PS3-200CP 190W	PASS	

## 2.13 PCI Express mini card

Motherboard	PCI Express mini card	Remark
HS-774TXDG2	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	ONLY MINI CARD 1
	MPX-5201	PASS
	MPX-6864	PASS
	MPX-7202	PASS
	MPX-9125	PASS
	MPX-TP4R	PASS
	MPX-SDVOD	ONLY MINI CARD 2

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

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

**=> SB PCI Express Config**

**=> PCI Express Root Port 5**

**=> PCIe Speed [Gen1]**

**Then load driver to usb floppy from**

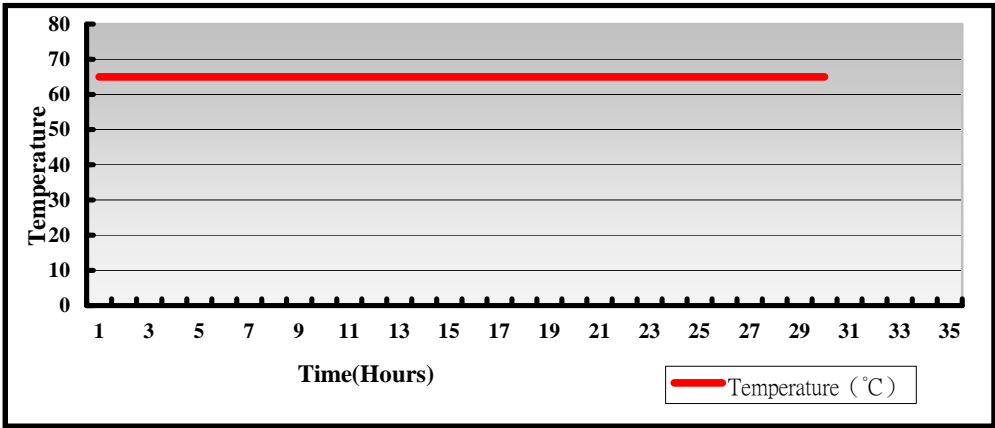
<http://www.siliconimage.com/support/searchresults.aspx?pid=32&cat=3>



### 3. Environmental test

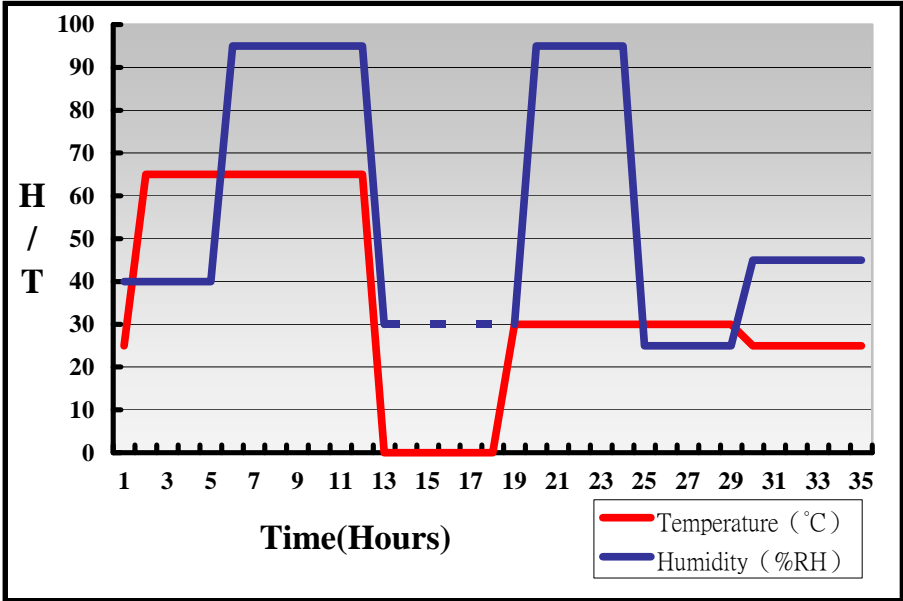
#### 3.1 Temperature Test

System Board	HS-774_A + CBP-5P4_A
CPU	Intel(R) Core(TM) i5-2510E 2.50GHz
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	HS-774_A
CPU	Intel(R) Core(TM) i5-2510E 2.50GHz
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



**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>HS-774_A+CPB-5P4</b>
<b>CPU</b>	<b>Intel(R) Core(TM) i7-2710QE 2.10GHz</b>
<b>Memory</b>	<b>Kingston DDR3 1600 8GB (J420BBBG-GN-F)</b>
<b>HDD</b>	<b>Western Digital WD10EARS-00Y5B1 1.0TB</b>

<b>Temperature</b>	<b>Result</b>	<b>Remark</b>
<b>80°C</b>	<b>PASS</b>	<b>50 Times</b>
<b>-35°C</b>	<b>PASS</b>	<b>50 Times</b>

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

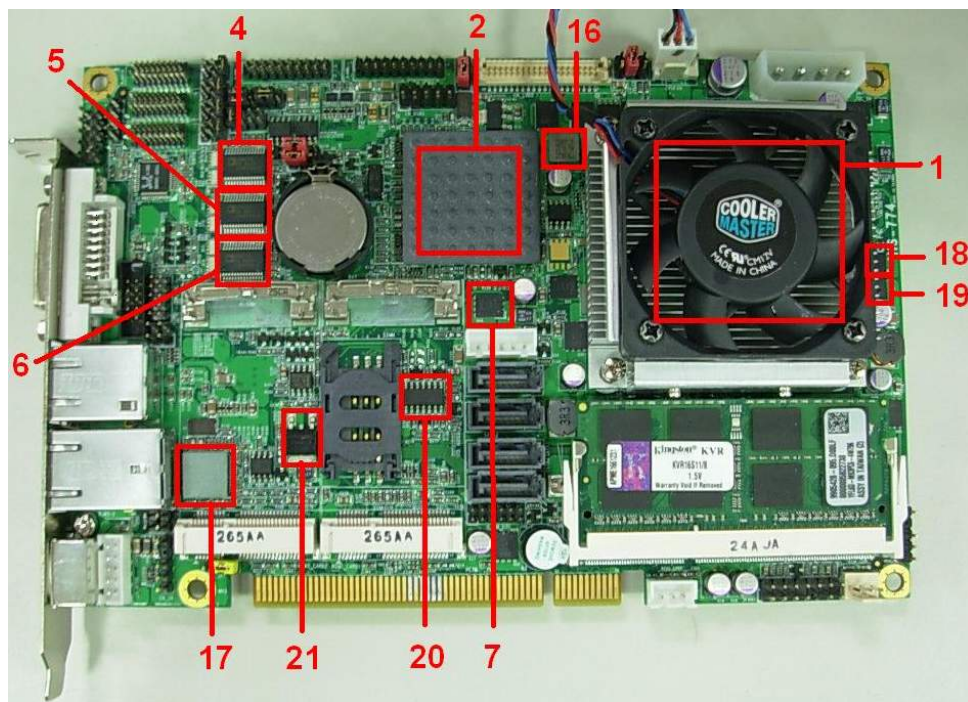
Test Environment :

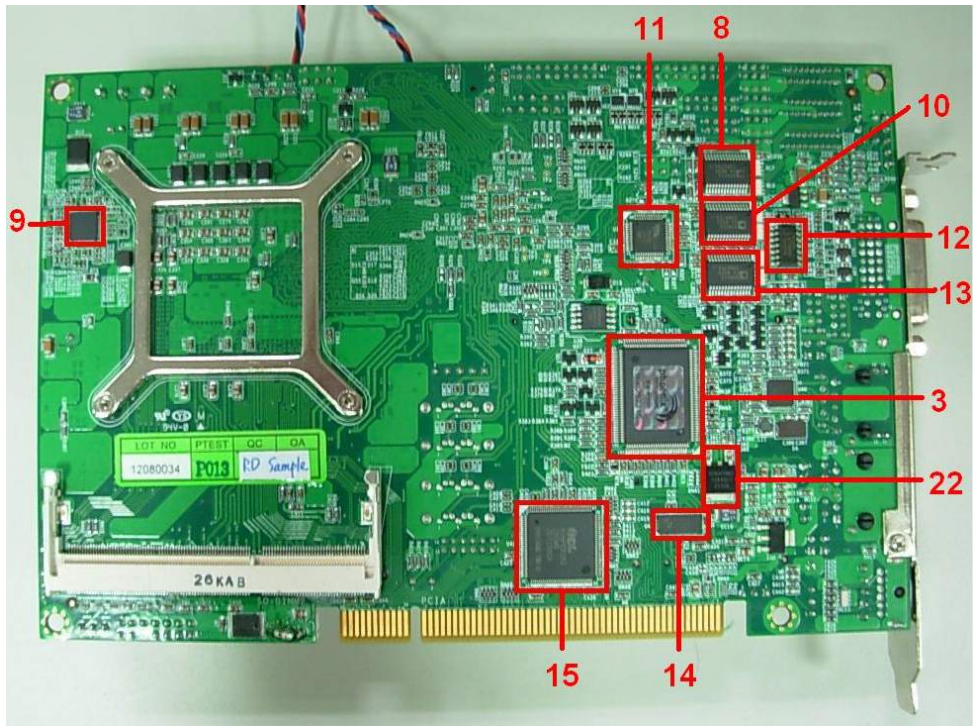
<b>CPU</b>	<b>Intel(R) Core(TM) i7-2710QE 2.10GHz</b>
<b>Memory</b>	<b>Kingston DDR3 1600 8GB (J420BBBG-GN-F)</b>
<b>HDD</b>	<b>Western Digital WD10EARS-00Y5B1 1.0TB</b>
<b>Power</b>	<b>AcBel ATX-350P-DNSS</b>
<b>Operating System</b>	<b>Windows XP SP2 64-bit</b>
<b>Test Program</b>	<b>BurnIn 6.0</b>

Test Result:

<b>Item</b>	<b>Environmental temperature</b>	<b>26.7°C</b>
<b>1</b>	<b>CPU</b>	<b>71°C</b>
<b>2</b>	<b>PCH (QM77)</b>	<b>56.6°C</b>
<b>3</b>	<b>LPCIO (ICH83627DHG-P+OLBPMB-1)</b>	<b>44.6°C</b>
<b>4</b>	<b>U5 (ICADM213ECA-T)</b>	<b>47.2°C</b>
<b>5</b>	<b>U9 (ICADM213ECA-T)</b>	<b>47.3°C</b>
<b>6</b>	<b>U10 (ICADM213ECA-T)</b>	<b>47°C</b>
<b>7</b>	<b>U12 (ITS74HC14)</b>	<b>49.3°C</b>
<b>8</b>	<b>U25 (ICADM213ECA-T)</b>	<b>45.9°C</b>
<b>9</b>	<b>U28 (ISL95831HRTZ)</b>	<b>62.9°C</b>
<b>10</b>	<b>U29 (ICADM213ECA-T)</b>	<b>45.8°C</b>
<b>11</b>	<b>U31 (ICHF81216D)</b>	<b>47°C</b>
<b>12</b>	<b>U32 (ITS74F125)</b>	<b>50.3°C</b>

13	U35 (ICADM213ECA-T)	45.2°C
14	U41 (ICTS2PCIE412)	46.5°C
15	U42 (TSI383)	49.5°C
16	LC1 (LLC3.3UH/063T)	53.5°C
17	LC4 (CSCA0.1UF)	46.2°C
18	Q24 (TMSIRFH7914PBF)	74.3°C
19	Q27 (TMSIRFH7914PBF)	67°C
20	Q28 (TMSIRFH7914PBF)	62.9°C
21	Q47 (TRE1085)	59°C
22	Q63 (TRE1085)	47°C





## 4. Reliability Test

### 4.1 Power Consumption Test

#### 1. Test Environment:

<b>Motherboard</b>	HS-774_A+CBP-5P4_A
<b>CPU</b>	Intel(R) Core(TM) i3-3120ME 2.40GHz
<b>Memory</b>	Kingston DDR3 1600 8GB (J420BBBG-GN-F)*2
<b>HDD</b>	Western Digital WD10EARS-00Y5B1 1.0TB

#### Power Supply : AcBel ATX-350P-DNSS

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003 +PRIME95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
<b>12V</b>	1.42	17.04	2.75	33
<b>5V</b>	2.8	14	4.44	22.2
<b>3.3V</b>	0.34	1.122	0.02	0.066
<b>5VSB</b>	0.241	1.205	0.002	0.01

**1.a.Test Environment:**

The same as above but with LCD panel

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

Power Supply : AcBel ATX-350P-DNSS

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003 +PRIME95	
	Current ( A )	Power ( W )	Current (A )	Power ( W )
<b>12V</b>	2.9	34.8	4.4	52.8
<b>5V</b>	3.43	17.15	5.07	25.35
<b>3.3V</b>	0.34	1.122	0.02	0.066
<b>5VSB</b>	0.24	1.2	0.01	0.05



## 2.Test Environment:

Motherboard	HS-774_A+CBP-5P4_A
CPU	Intel(R) Core(TM) i5-3210M 2.50GHz
Memory	Kingston DDR3 1600 8GB (J420BBBG-GN-F)*2
HDD	Western Digital WD10EARS-00Y5B1 1.0TB

### Power Supply : AcBel ATX-350P-DNSS

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003 +PRIME95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
12V	1.38	16.56	3.28	39.36
5V	2.78	13.9	4.27	21.35
3.3V	0.34	1.122	0.02	0.066
5VSB	0.23	1.15	0.002	0.01

## 2.a.Test Environment:

The same as above but with LCD panel

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

Power Supply : AcBel ATX-350P-DNSS

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003 +PRIME95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
<b>12V</b>	2.84	34.08	4.58	54.96
<b>5V</b>	3.43	17.15	4.97	24.85
<b>3.3V</b>	0.34	1.122	0.02	0.066
<b>5VSB</b>	0.228	1.14	0.11	0.55

### 3.Test Environment:

Motherboard	HS-774_A+CBP-5P4_A
CPU	Intel(R) Core(TM) i7-2710QE 2.10GHz
Memory	Kingston DDR3 1600 8GB (J420BBBG-GN-F)*2
HDD	Western Digital WD10EARS-00Y5B1 1.0TB

#### Power Supply : AcBel ATX-350P-DNSS

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003 +PRIME95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
12V	2.17	26.04	4.9	58.8
5V	3.02	15.1	4.42	22.1
3.3V	0.43	1.419	0.02	0.066
5VSB	0.241	1.205	0.002	0.01

### 3.a.Test Environment:

The same as above but with LCD panel

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

Power Supply : AcBel ATX-350P-DNSS

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003 +PRIME95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
<b>12V</b>	3.47	41.64	5.19	62.28
<b>5V</b>	3.68	18.4	5.09	25.45
<b>3.3V</b>	0.39	1.287	0.02	0.066
<b>5VSB</b>	0.235	1.175	0.014	0.07

## 5. Performance Test

### 5.1 Content Creation Winstone 2004

Windows XP SP2

<b>WEIGHTED SUITE</b>	<b>Test Environment</b>	<b>Result</b>	<b>Remark</b>
<b>Content Creation Winstone 2004</b>	<b>Intel(R) Core(TM) i7-2710QE 2.10GHz Kingston DDR3 1333 4GB (D2568JPTCPGD9U) Western Digital WD3200AAKS-00B3A0 320GB</b>	<b>PASS</b>	59.1 59.9 60.1 58.9
<b>Content Creation Winstone 2004</b>	<b>Intel(R) Core(TM) i5-3210ME 2.50GHz ADATA DDR3 1066 2GB (H57Q1G83AFP) Western Digital WD3200AAKS-00B3A0 320GB</b>	<b>PASS</b>	61.9 62 61.5 61.7

## 5.2 3D MARK(2001、2003、2005)

Windows XP SP2 32-bit

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Score	Intel(R) Core(TM) i3-3120ME 2.40GHz	PASS	8588
3DMARK2003 Score	ADATA DDR3 1066 2GB (H57Q1G83AFP)	PASS	6657
3DMARK2005 Score	Western Digital WD3200AAKS-00B3A0 320GB	PASS	3570

Windows XP SP2 32-bit

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Score	Intel(R) Core(TM) i5-2510E 2.50GHz	PASS	11898
3DMARK2003 Score	Transcend DDR3 1066 2GB (K4B1G0846D)	PASS	6508
3DMARK2005 Score	Western Digital WD3200AAKS-00B3A0 320GB	PASS	4381

**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) Core(TM) i7-2710QE 2.10GHz Kingston DDR3 1600 8GB (J420BBBG-GN-F) Western Digital WD10EARS-00Y5B1 1.0TB</b>	PASS	16853
<b>3DMARK2003 Score</b>		PASS	6043
<b>3DMARK2005 Score</b>		PASS	5713

**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) Core(TM) i5-2510E 2.50GHz Kingston DDR3 1333 4GB (D2568JPTCPGD9U) Western Digital WD3200AAKS-00B3A0 320GB</b>	PASS	14244
<b>3DMARK2003 Score</b>		PASS	4970
<b>3DMARK2005 Score</b>		PASS	5007

**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) Core(TM) i3-3120ME</b> <b>2.40GHz</b> <b>ADATA DDR3 1066 2GB</b> <b>(H57Q1G83AFP)</b> <b>Western Digital</b> <b>WD3200AAKS-00B3A0 320GB</b>	PASS	2151
2	SM2.0 Score		PASS	648
3	HDR/SM3.0 Score		PASS	890
4	CPU Score		PASS	2638

**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) Core(TM) i5-2510E</b> <b>2.50GHz</b> <b>Transcend DDR3 1066 2GB</b> <b>(K4B1G0846D)</b> <b>Western Digital</b> <b>WD3200AAKS-00B3A0 320GB</b>	PASS	2561
2	SM2.0 Score		PASS	929
3	HDR/SM3.0 Score		PASS	929
4	CPU Score		PASS	2446



**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) Core(TM) i7-2710QE</b> <b>2.10GHz</b> <b>Kingston DDR3 1600 8GB</b> <b>(J420BBBG-GN-F)</b> <b>Western Digital</b> <b>WD10EARS-00Y5B1 1.0TB</b>	PASS	2790
2	SM2.0 Score		PASS	843
3	HDR/SM3.0 Score		PASS	1135
4	CPU Score		PASS	4077

**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) Core(TM) i5-2510E</b> <b>2.50GHz</b> <b>Kingston DDR3 1333 4GB</b> <b>(D2568JPTCPGD9U)</b> <b>Western Digital</b> <b>WD3200AAKS-00B3A0 320GB</b>	PASS	2337
2	SM2.0 Score		PASS	725
3	HDR/SM3.0 Score		PASS	954
4	CPU Score		PASS	2622

## 5.4 PC MARK2002

<b>Test Environment</b>
<b>Intel(R) Core(TM) i3-3120ME 2.40GHz ADATA DDR3 1066 2GB (H57Q1G83AFP) 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	10171
<b>2</b>	<b>Memory Score</b>	PASS	35689
<b>3</b>	<b>HDD Score</b>	PASS	2402

<b>Test Environment</b>
<b>Intel(R) Core(TM) i5-2510E 2.50GHz Transcend DDR3 1066 2GB (K4B1G0846D) 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	12370
<b>2</b>	<b>Memory Score</b>	PASS	37789
<b>3</b>	<b>HDD Score</b>	PASS	2482

<b>Test Environment</b>
<b>Intel(R) Core(TM) i7-2710QE 2.10GHz</b> <b>Kingston DDR3 1600 8GB (J420BBBG-GN-F)</b> <b>Western Digital WD10EARS-00Y5B1 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	12189
<b>2</b>	<b>Memory Score</b>	PASS	4713
<b>3</b>	<b>HDD Score</b>	PASS	1771

<b>Test Environment</b>
<b>Intel(R) Core(TM) i5-2510E 2.50GHz</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	12529
<b>2</b>	<b>Memory Score</b>	PASS	39964
<b>3</b>	<b>HDD Score</b>	PASS	2299

## 5.5 PC MARK2004

<b>Test Environment</b>
Intel(R) Core(TM) i3-3120ME 2.40GHz ADATA DDR3 1066 2GB (H57Q1G83AFP) Western Digital WD3200AAKS-00B3A0 320GB

Windows XP PS2 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark Score	PASS	N/A
2	CPU Score	PASS	N/A
3	Memory Score	PASS	8051
4	Graphic Score	PASS	4439
5	HDD Score	PASS	N/A

<b>Test Environment</b>
Intel(R) Core(TM) i5-2510E 2.50GHz Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD3200AAKS-00B3A0 320GB

Windows XP PS2 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark Score	PASS	N/A
2	CPU Score	PASS	N/A
3	Memory Score	PASS	7595
4	Graphic Score	PASS	3968
5	HDD Score	PASS	6446

<b>Test Environment</b>
<b>Intel(R) Core(TM) i7-2710QE 2.10GHz</b> <b>Kingston DDR3 1600 8GB (J420BBBG-GN-F)</b> <b>Western Digital WD10EARS-00Y5B1 1.0TB</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	N/A
<b>3</b>	<b>Memory Score</b>	PASS	11763
<b>4</b>	<b>Graphic Score</b>	PASS	4447
<b>5</b>	<b>HDD Score</b>	PASS	N/A

<b>Test Environment</b>
<b>Intel(R) Core(TM) i5-2510E 2.50GHz</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	N/A
<b>2</b>	<b>CPU Score</b>	PASS	N/A
<b>3</b>	<b>Memory Score</b>	PASS	8794
<b>4</b>	<b>Graphic Score</b>	PASS	4347
<b>5</b>	<b>HDD Score</b>	PASS	6422

## 5.6 PC MARK2005

<b>Test Environment</b>
Intel(R) Core(TM) i3-3120ME 2.40GHz ADATA DDR3 1066 2GB (H57Q1G83AFP) Western Digital WD3200AAKS-00B3A0 320GB

Windows XP SP2 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark Score	PASS	6224
2	CPU Score	PASS	7736
3	Memory Score	PASS	7227
4	Graphic Score	PASS	3456
5	HDD Score	PASS	6937

<b>Test Environment</b>
Intel(R) Core(TM) i5-2510E 2.50GHz Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD3200AAKS-00B3A0 320GB

Windows XP SP2 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark Score	PASS	6455
2	CPU Score	PASS	8719
3	Memory Score	PASS	7768
4	Graphic Score	PASS	3183
5	HDD Score	PASS	6989

<b>Test Environment</b>
<b>Intel(R) Core(TM) i7-2710QE 2.10GHz</b> <b>Kingston DDR3 1600 8GB (J420BBBG-GN-F)</b> <b>Western Digital WD10EARS-00Y5B1 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>PCMark Score</b>	PASS	N/A
<b>2</b>	<b>CPU Score</b>	PASS	9570
<b>3</b>	<b>Memory Score</b>	PASS	9068
<b>4</b>	<b>Graphic Score</b>	PASS	3602
<b>5</b>	<b>HDD Score</b>	PASS	4836

<b>Test Environment</b>
<b>Intel(R) Core(TM) i7-2710QE 2.10GHz</b> <b>ADATA 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>
<b>1</b>	<b>PCMark Score</b>	PASS	6696
<b>2</b>	<b>CPU Score</b>	PASS	9584
<b>3</b>	<b>Memory Score</b>	PASS	8069
<b>4</b>	<b>Graphic Score</b>	PASS	3621
<b>5</b>	<b>HDD Score</b>	PASS	6622

<b>Test Environment</b>
<b>Intel(R) Core(TM) i5-2510E 2.50GHz</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	5902
2	CPU Score	PASS	7130
3	Memory Score	PASS	8155
4	Graphic Score	PASS	3641
5	HDD Score	PASS	6958

<b>Test Environment</b>
<b>Intel(R) Core(TM) i5-3210ME 2.50GHz</b> <b>Transcend DDR3 1066 1GB (K4B1G0846D)</b> <b>Western Digital WD3200AAKS-00B3A0 320GB</b>

**Windows XP SP2 64-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
1	PCMark Score	PASS	7510
2	CPU Score	PASS	9655
3	Memory Score	PASS	8296
4	Graphic Score	PASS	4216
5	HDD Score	PASS	7036



## 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	81.3 MB/sec	119.3 MB/sec	16.0 ms
Western Digital WD3200AAJS-00YZCA0	SATA	320 GB	86 MB/sec	76.8 MB/sec	15.5 ms
Western Digital WD5000AAKX-22ERMA0	SATA	500 GB	99.8 MB/sec	183.7 MB/sec	15.6 ms
Western Digital WD10EARS-00Y5B1	SATA	1 TB	76.9 MB/sec	80.9 MB/sec	15.7 ms
Western Digital WD10EADS-00P8B0	SATA	1 TB	63.4 MB/sec	83.6 MB/sec	14.8 ms
Western Digital WD10EALX-009BA0	SATA	1 TB	55.8 MB/sec	127.4 MB/sec	13.6 ms
ADATA Flash Drive C906	USB	8 GB	6.8 MB/sec	1.7 MB/sec	5.5 ms

<b>TDK LoR Trans-It Drive</b>	<b>USB</b>	<b>4 GB</b>	14.7 MB/sec	11.4 MB/sec	1.1 ms
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## 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	34.13 x	165 ms	39 MB/s	16 X DVD+R
LITE-ON eTAU108	USB	17.28 x	245 ms	18 MB/s	16 X DVD+R
BUFFALO DVSM-PC58U2V	USB	5.09 x	214 ms	20 MB/s	16 X DVD+R