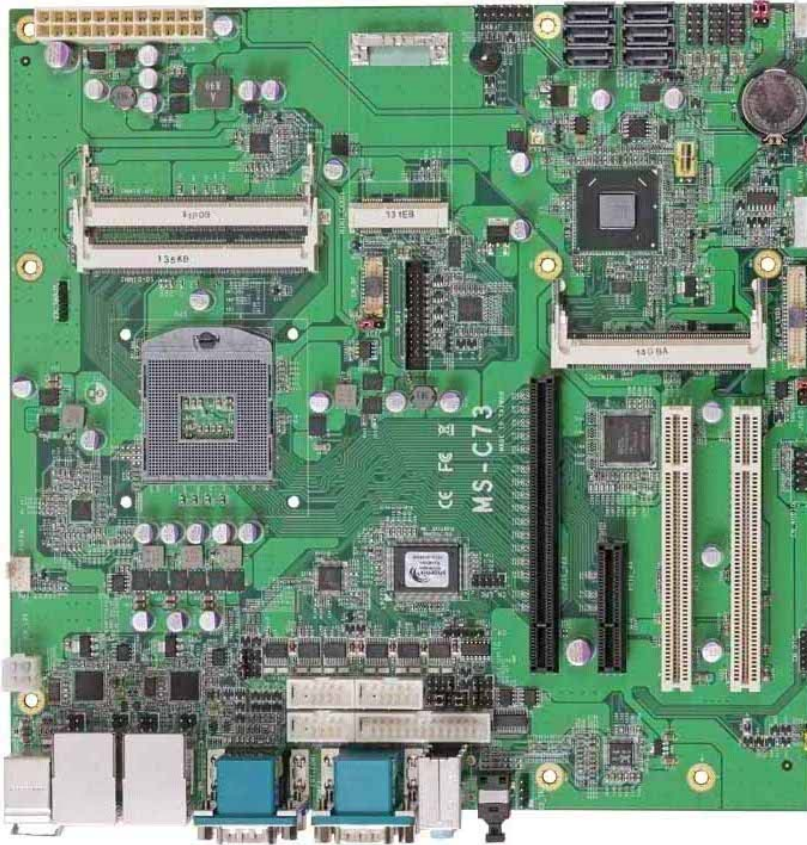


Product Test Report



| | |
|-------------------------|-------------------|
| Product Name | MS-C73 |
| Product Version | A |
| Issued Date | 2012.07.19 |
| Report Edition | 1.2 |
| BIOS Version | 1.0 |
| Testing Engineer | RICK |
| Check Engineer | JEFF |

| REVISION HISTORY | | | |
|-------------------------|---------------------|-------------|--|
| DATE | REVISION NO. | PAGE | DESCRIPTONS |
| 2012.01.03 | Ver. 1.0 | 79 | Initial Release. |
| 2012.03.23 | Ver. 1.1 | 82 | Add 16GB power consumption and memory test. |
| 2012.07.19 | Ver. 1.2 | 82 | Delete MPX-574D2 (Because only support LAN 1) |

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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 / 5 / 6 | PASS |
| 6 | DDR3 1 / 2 | PASS |
| 7 | USB 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 | PASS |
| 8 | COM 1 / 2 / 3 / 4 / 5 / 6 | PASS |
| 9 | VGA Port | PASS |
| 10 | PS2 | PASS |
| 11 | LAN_1 / 2 | PASS |
| 12 | AUDIO | PASS |
| 13 | CD_IN | PASS |
| 14 | CN_AUDIO | PASS |
| 15 | PRINTER | PASS |
| 16 | DIO | PASS |
| 17 | IrDA | PASS |
| 18 | DVI | PASS |
| 19 | LVDS | PASS |
| 20 | CPUFAN | PASS |
| 21 | SYSFAN | PASS |
| 22 | SPDIF | PASS |

| | | |
|----|-----------|------|
| 23 | PCI 1 / 2 | PASS |
| 24 | MINIPCI | PASS |
| 25 | PCIE 16x | PASS |
| 26 | PCIE 4x | PASS |
| 27 | MINI CARD | 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 | SATA Device | PASS | |
| 11 | Interface Combination | PASS | |
| 12 | Intel (R) HT Technology | PASS | |
| 13 | DVMT Total Gfx Mem | PASS | |
| 14 | IGD-Boot Type | PASS | |
| 15 | IGD-LCD Panel type | PASS | |
| 16 | Panel Color Depth | PASS | |
| 17 | USB Per-Port Disabled Control | PASS | |
| 18 | SB Azalia Config | PASS | |
| 19 | LAN OPROM Selection | PASS | |
| 20 | Serial Port | PASS | |
| 21 | IR Func. | PASS | |
| 22 | Paraller Port | PASS | |
| 23 | Watch Dog Timer Select | PASS | |
| 24 | Power Control | PASS | |
| 25 | Power On By RTC Alarm | PASS | |

| | | | |
|----|--------------------------------|------|--|
| 26 | Set Supervisor Password | PASS | |
| 27 | Set User Password | PASS | |

1.3 Driver

CD Edition : IPCi4-1.0

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 | 5.10.0.6101 |
| 4 | LAN Driver | PASS | 10.3.49.0 |

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 | 5.10.0.6101 |
| 4 | LAN Driver | PASS | 11.7.32.0 |

3. Windows Server 2003 32-bit Driver Test

| Item | Description | Result | Version |
|------|----------------|--------|-------------|
| 1 | Chipset Driver | PASS | 9.2.0.1025 |
| 2 | Audio Driver | PASS | 5.10.0.6101 |
| 3 | LAN Driver | PASS | 10.3.49.0 |

4. Windows Server 2003 64-bit driver test

| Item | Description | Result | Version |
|------|----------------|--------|-------------|
| 1 | Chipset Driver | PASS | 9.2.0.1025 |
| 2 | Audio Driver | PASS | 5.10.0.6101 |
| 3 | LAN Driver | PASS | 11.7.32.0 |

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 | 6.1.0.6101 |
| 4 | LAN Driver | PASS | 10.3.49.0 |

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 | 6.1.0.6101 |
| 4 | LAN Driver | PASS | 10.3.49.0 |

7. Windows Server 2008 32-bit driver test

| Item | Description | Result | Version |
|------|----------------|--------|------------|
| 1 | Chipset Driver | PASS | 9.2.0.1025 |
| 2 | Audio Driver | PASS | 6.1.0.6101 |
| 3 | LAN Driver | PASS | 10.3.49.0 |

8. Windows Server 2008 64-bit driver test

| Item | Description | Result | Version |
|------|----------------|--------|------------|
| 1 | Chipset Driver | PASS | 9.2.0.1025 |
| 2 | Audio Driver | PASS | 6.1.0.6101 |
| 3 | LAN Driver | PASS | 10.3.49.0 |

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 | 6.1.0.6101 |

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 | 6.1.0.6101 |

2. Compatibility test

2.1 CPU Test

Test environment:

OS Windows XP professional SP2

Test program : PC MARK 2005

| Spec | CPU Speed | Family | Processor | DMI | Smart Cache | Result |
|-----------------------|-----------|---------|-----------|--------|-------------|--------|
| SR02T | 2.10 GHz | Core | i7-2710QE | 5 GT/s | 6 MB | PASS |
| SR04B | 2.30 GHz | Core | i5-2410M | 5 GT/s | 3 MB | PASS |
| SR02V | 2.20 GHz | Core | i3-2330E | 5 GT/s | 3 MB | PASS |
| SR088 | 1.60 GHz | Celeron | B810 | 5 GT/s | 2 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 | RED HAT 6 (2.6.32.el6.x86_64) | PASS | |

2.3 Memory Test

Test environment:

OS Windows XP professional SP2

Test program : PC MARK 2005

| Manufacturer | Chip | Frequency | Capacity Mbytes | Result |
|--------------|-----------------|-----------|--------------------|--------|
| Kingston | J4208BASE-DJ-F | DDR3 1333 | 8 GB | PASS |
| Kingston | K4B2G0846B-HCFB | DDR3 1066 | 4 GB | PASS |
| Kingston | D2568JENCPGD9U | DDR3 1333 | 4 GB | PASS |
| A-DATA | J2108BCSE-GN-F | DDR3 1600 | 4 GB | PASS |
| A-DATA | K4B1G0846D | DDR3 1066 | 2 GB | PASS |
| INNODISK | H5TQ2G83CFR | DDR3 1333 | 4 GB | PASS |
| INNODISK | H5TQ2G83CFR | DDR3 1333 | 2 GB | PASS |
| Transcend | K4B1G0846D | DDR3 1066 | 1 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 : 5.10.0.6101

| Item | Description | Result | Remark |
|------|-------------|--------|--------|
| 1 | 2 CH | PASS | |
| 2 | Microphone | PASS | |
| 3 | LINE-IN | PASS | |
| 4 | CDIN | PASS | |
| 5 | SPDIF | PASS | |

OS Windows XP professional SP2 64-bit

Driver version : 5.10.0.6101

| Item | Description | Result | Remark |
|------|-------------|--------|--------|
| 1 | 2 CH | PASS | |
| 2 | Microphone | PASS | |
| 3 | LINE-IN | PASS | |
| 4 | CDIN | PASS | |
| 5 | SPDIF | PASS | |

OS Windows Server 2003 32-bit

Driver version : 5.10.0.6101

| Item | Description | Result | Remark |
|------|-------------|--------|--------|
| 1 | 2 CH | PASS | |
| 2 | Microphone | PASS | |
| 3 | LINE-IN | PASS | |
| 4 | CDIN | PASS | |
| 5 | SPDIF | PASS | |

OS Windows Server 2003 64-bit**Driver version : 5.10.0.6101**

| Item | Description | Result | Remark |
|------|-------------|--------|--------|
| 1 | 2 CH | PASS | |
| 2 | Microphone | PASS | |
| 3 | LINE-IN | PASS | |
| 4 | CDIN | PASS | |
| 5 | SPDIF | PASS | |

OS Windows Vista 32 bit**Driver version : 6.0.1.6101**

| Item | Description | Result | Remark |
|------|-------------|--------|--------|
| 1 | 2 CH | PASS | |
| 2 | Microphone | PASS | |
| 3 | LINE-IN | PASS | |
| 4 | CDIN | PASS | |
| 5 | SPDIF | PASS | |

OS Windows Vista 64 bit**Driver version : 6.0.1.6101**

| Item | Description | Result | Remark |
|------|-------------|--------|--------|
| 1 | 2 CH | PASS | |
| 2 | Microphone | PASS | |
| 3 | LINE-IN | PASS | |
| 4 | CDIN | PASS | |
| 5 | SPDIF | PASS | |

OS Windows Server 2008 32-bit**Driver version : 6.0.1.6101**

| Item | Description | Result | Remark |
|------|-------------|--------|--------|
| 1 | 2 CH | PASS | |
| 2 | Microphone | PASS | |
| 3 | LINE-IN | PASS | |
| 4 | CDIN | PASS | |
| 5 | SPDIF | PASS | |

OS Windows Server 2008 64-bit**Driver version : 6.0.1.6101**

| Item | Description | Result | Remark |
|------|-------------|--------|--------|
| 1 | 2 CH | PASS | |
| 2 | Microphone | PASS | |
| 3 | LINE-IN | PASS | |
| 4 | CDIN | PASS | |
| 5 | SPDIF | PASS | |

OS Windows 7 32-bit**Driver version : 6.0.1.6101**

| Item | Description | Result | Remark |
|------|-------------|--------|--------|
| 1 | 2 CH | PASS | |
| 2 | Microphone | PASS | |
| 3 | LINE-IN | PASS | |
| 4 | CDIN | PASS | |
| 5 | SPDIF | PASS | |

OS Windows 7 64-bit
Driver version : 6.0.1.6101

| Item | Description | Result | Remark |
|-------------|--------------------|---------------|---------------|
| 1 | 2 CH | PASS | |
| 2 | Microphone | PASS | |
| 3 | LINE-IN | PASS | |
| 4 | CDIN | PASS | |
| 5 | SPDIF | PASS | |

OS RED HAT 6

| Item | Description | Result | Remark |
|-------------|--------------------|---------------|---------------|
| 1 | 2 CH | PASS | |

2.6 HDD Test

Test environment:

OS Windows XP professional SP2

| Model | Interface | Capacity | Size Detect | Data Transfer |
|---------------------------------------|-----------|----------|-------------|---------------|
| Hitachi HTS543216L9A300 | SATA | 160 GB | PASS | PASS |
| Western Digital WD3200AAJS-00YZCA0 | SATA | 320 GB | PASS | PASS |
| Western Digital WD5000AAKX-001CA0 | SATA | 500 GB | PASS | PASS |
| Western Digital WD5000AAKS-00V1A0 | SATA | 500 GB | PASS | PASS |
| Western Digital WD10EALX-009BA0 | SATA | 1.0 TB | PASS | PASS |

2.7 DVD-ROM Test

Test environment:

OS Windows XP professional SP2

| Model | Interface | Detect | Data Transfer | Play CD |
|---------------------------|-----------|--------|---------------|---------|
| LG DVD GH20NS15 | SATA | PASS | PASS | PASS |
| PIONEER DVD DVR-S19LBK | SATA | PASS | PASS | PASS |
| PIONEER DVD DVR-212BK | SATA | PASS | PASS | PASS |
| LITEON DVD SOSC-2485KX | USB | PASS | PASS | PASS |
| LITEON DVD SOSW-833XS | USB | PASS | PASS | PASS |
| LITEON DVD eTAU108 | 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 | |

6. RED HAT 6

| 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-232 Mouse Test | PASS | COM1/2 |
| 2 | RS-422 & RS-485 | PASS | |
| 3 | 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

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

11. Windows 7 64-bit

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

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

6. Windows 7 32/64-bit

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

7. RED HAT 6

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

2.11 Print Port Test

1. MS-DOS

| Item | Description | Result | Remark |
|------|--------------------|--------|--------|
| 1 | ECP/EPP PRINT TEST | PASS | |

2. Windows Server 2003 32/64-bit

| Item | Description | Result | Remark |
|------|--------------------|--------|--------|
| 1 | ECP/EPP PRINT TEST | PASS | |

3. Windows XP SP2 32/64-bit

| Item | Description | Result | Remark |
|------|--------------------|--------|--------|
| 1 | ECP/EPP PRINT TEST | PASS | |

4. Windows Vista 32/64-bit

| Item | Description | Result | Remark |
|------|--------------------|--------|--------|
| 1 | ECP/EPP PRINT TEST | PASS | |

5. Windows Server 2008 32/64-bit

| Item | Description | Result | Remark |
|------|--------------------|--------|--------|
| 1 | ECP/EPP PRINT TEST | PASS | |

6. Windows 7 32/64-bit

| Item | Description | Result | Remark |
|------|--------------------|--------|--------|
| 1 | ECP/EPP PRINT TEST | PASS | |

2.12 LAN Test

Data Transfer Test environment:

-CAT 6 UTP 100M

-8 HR. continuous

1. Windows XP SP2 32/64-bit

32-bit driver version : 10.3.49.0 ; 64-bit driver version : 11.7.32.0

| 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 : 10.3.49.0 ; 64-bit driver version : 11.7.32.0

| 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 : 10.3.49.0

| 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 : 10.3.49.0

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

5. Windows Server 7 32/64-bit (System's original driver)

32-bit driver version : 11.0.5.21 ; 64-bit driver version : 11.0.5.22

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

6. RED HAT 6

| Item | Description | Result | Remark |
|-------------|-----------------------------|---------------|---------------|
| 1 | Device Manager Check | PASS | |

2.13 Power Supply Test

| Item | TYPE | Description | Result | Remark |
|------|-----------|---|--------|--------|
| 1 | ATX Power | CHANNEL WELL TECHNOLOGY CWT-300ATX12 300W | PASS | |
| 2 | ATX Power | SWITCHING POWER SUPPLY MC-B350ATX | PASS | |
| 3 | ATX Power | snake PT-300W 300W | PASS | |
| 4 | ATX Power | Enhance ENH-0630A 300W | PASS | |
| 5 | ATX Power | HIGH POWER HPC-250-101 A/OEM 250W | PASS | |
| 6 | ATX Power | CHANNEL WELL TECHNOLOGY SFX-200CPS3C-TL 200W | PASS | |
| 7 | ATX Power | Seasonic HB-430HB 430W | PASS | |

2.14 Mini-PCI Card

| Motherboard | PCI Express mini card | Remark |
|-------------|-----------------------|--------|
| MS-C73 | MP-954 | PASS |
| | MP-840 | PASS |
| | MP-323 | PASS |
| | MP-541D | PASS |
| | MP-541D2 | PASS |
| | MP-878D | PASS |
| | MP-878D2 | PASS |
| | MP-60102 | PASS |
| | MP-6100 | PASS |
| | MP-6802T | PASS |
| | MP-6816D4 | PASS |
| | MP-6816D8 | PASS |

2.15 PCI Express mini card

| Motherboard | PCI Express mini card | Remark |
|-------------|-----------------------|--------|
| MS-C73 | MPX-954 | PASS |
| | MPX-954E | PASS |
| | MPX-827 | PASS |
| | MPX-574D | PASS |
| | MPX-643 | PASS |
| | MPX-885 | PASS |
| | MPX-3132 | PASS |
| | MPX-7202 | PASS |
| | MPX-TP4R | PASS |
| | MPX-1040 | PASS |
| | MPX-6864 | PASS |

Attention: MPX-3132 needs to into BIOS setting

=> Advanced => South Bridge Configuration

=> SB PCI Express Config

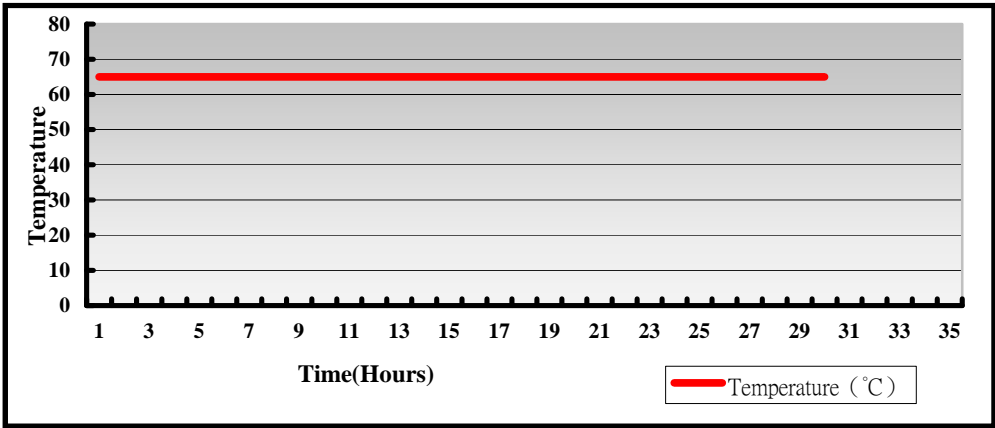
=> PCI Express Root Port 3

=> PCIe Speed [Gen1]

3. Environmental test

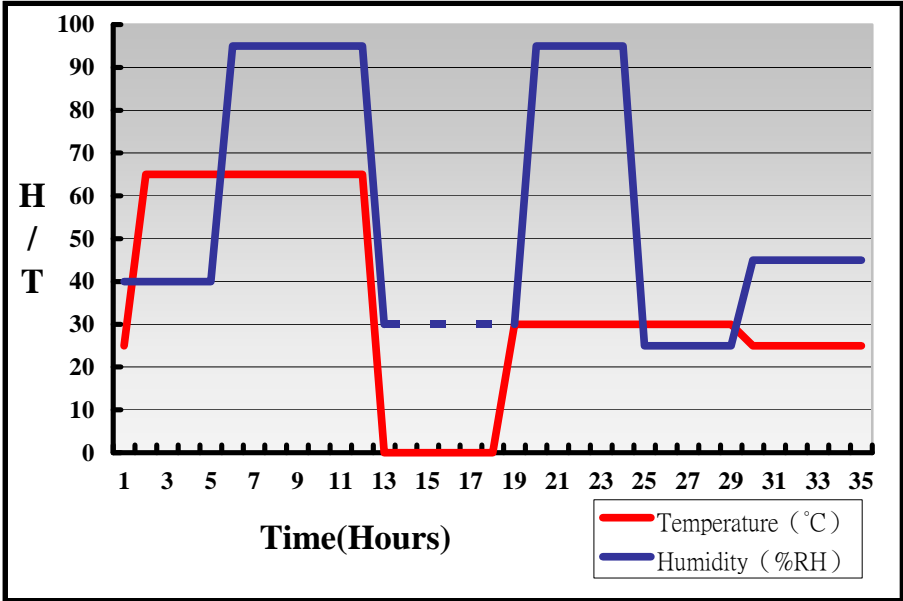
3.1 Temperature Test

| | |
|----------------|---|
| System Board | MS-C73 |
| CPU | Intel® Core™ i5-2510M 2.50GHz |
| Memory | Transcend DDR3 1066 2GB (K4B1G0846D) |
| HDD | Western Digital WD5000AAKX-001CA0 500GB |
| Operating OS | Windows XP |
| Test Equipment | GIANT FORCE (GTH-150-60-CP-AR) |
| Test Program | 3DMark 2003 |



Hardware Device list:

| | |
|----------------|---|
| System Board | MS-C73 |
| CPU | Intel® Core™ i7-2710QE 2.10GHz |
| Memory | A-DATA DDR3 1066 2GB (K4B1G0846D) |
| HDD | Western Digital WD5000AAKX-001CA0 500GB |
| 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:**

| | |
|---------------------|--|
| System Board | MS-C73 |
| CPU | Intel® Core™ i5-2510M 2.50GHz |
| Memory | Transcend DDR3 1066 2GB (K4B1G0846D) |
| HDD | Western Digital WD5000AAKX-001CA0 500GB |

| Temperature | Result | Remark |
|--------------------|---------------|-----------------|
| 85°C | PASS | 50 Times |
| 0°C | PASS | 50 Times |

3.2 Thermal measurements at various points on the board

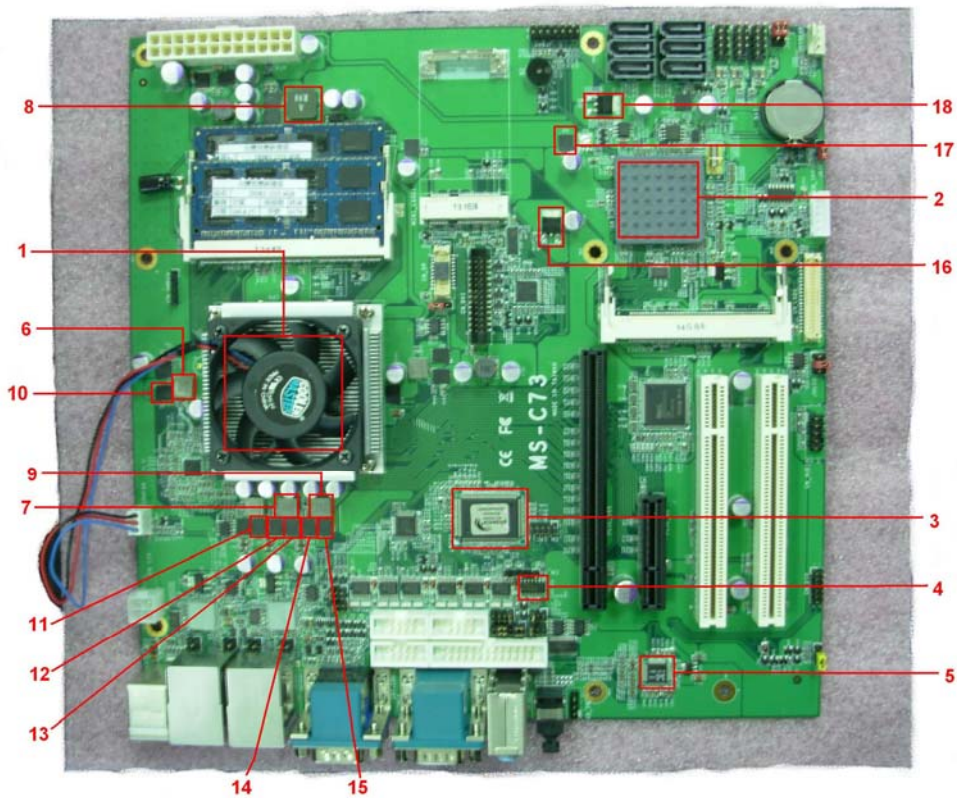
Test Environment :

| | |
|-------------------------|--|
| CPU | Intel® Celeron™ B810 1.60GHz |
| Memory | Kingston DDR3 1333 4GB*2 (D2568JENCPGD9U) |
| HDD | Western Digital WD5000AAKS-00V1A0 500GB |
| Power | CHANNEL WELL TECHNOLOGY CWT-300ATX12 |
| Operating System | Windows XP |
| Test Program | Burnin 6.0 |

Test Result:

| Item | Environmental temperature | 26°C |
|-------------|----------------------------------|---------------|
| 1 | CPU | 72°C |
| 2 | PCH(QM67) | 48.1°C |
| 3 | LPCIO | 36.5°C |
| 4 | U28 | 42.4°C |
| 5 | U32 | 44.8°C |
| 6 | L1 | 40.2°C |
| 7 | L4 | 41.3°C |
| 8 | L5 | 40°C |
| 9 | L6 | 41.6°C |
| 10 | Q1 | 40.2°C |
| 11 | Q5 | 40.7°C |

| | | |
|----|-----|--------|
| 12 | Q6 | 43.1°C |
| 13 | Q9 | 45.2°C |
| 14 | Q10 | 44.3°C |
| 15 | Q11 | 46.1°C |
| 16 | Q29 | 52.5°C |
| 17 | Q30 | 56.7°C |
| 18 | Q34 | 40.1°C |



4. Reliability Test

4.1 Power Consumption Test

1. Test Environment:

| | |
|--------------------|---|
| Motherboard | MS-C73 |
| CPU | Intel® Core™ i7-2710QE 2.10GHz |
| Memory | Kingston DDR3 1333 4GB*2 (D2568JENC PGD9U) |
| HDD | Western Digital WD5000AAKS-00V1A0 500GB |

Power Supply : CHANNEL WELL TECHNOLOGY CWT-300ATX12

| Voltage | MS-DOS Boot up | | Windows XP SP2 64-bit 3DMARK 2003 +PRIME95 | |
|----------------|---------------------------|--------------------|---|--------------------|
| | Current (A) | Power (W) | Current (A) | Power (W) |
| 12V | 2.63 | 31.56 | 6.41 | 76.92 |
| 5V | 1.97 | 9.85 | 3.37 | 16.85 |
| 3.3V | 2.2 | 7.26 | 2.15 | 7.095 |
| 5VSB | 0.385 | 1.925 | 0.005 | 0.025 |

1.a.Test Environment:

The same as above but with LCD panel

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

Power Supply : CHANNEL WELL TECHNOLOGY CWT-300ATX12

| Voltage | MS-DOS Boot up | | Windows XP SP2 64-bit 3DMARK 2003 +PRIME95 | |
|----------------|---------------------------|--------------------|---|--------------------|
| | Current (A) | Power (W) | Current (A) | Power (W) |
| 12V | 4.52 | 54.24 | 8.39 | 100.68 |
| 5V | 3.07 | 15.35 | 4.34 | 21.7 |
| 3.3V | 2.25 | 7.425 | 2.28 | 7.524 |
| 5VSB | 0.363 | 1.815 | 0.013 | 0.065 |

2.Test Environment:

| | |
|--------------------|---|
| Motherboard | MS-C73 |
| CPU | Intel® Core™ i5-2410M 2.30GHz |
| Memory | Kingston DDR3 1333 4GB*2 (D2568JENC PGD9U) |
| HDD | Western Digital WD5000AAKS-00V1A0 500GB |

Power Supply : CHANNEL WELL TECHNOLOGY CWT-300ATX12

| Voltage | MS-DOS Boot up | | Windows XP SP2 64-bit 3DMARK 2003 +PRIME95 | |
|----------------|---------------------------|--------------------|---|--------------------|
| | Current (A) | Power (W) | Current (A) | Power (W) |
| 12V | 1.77 | 21.24 | 4 | 48 |
| 5V | 2.07 | 10.35 | 3.22 | 16.1 |
| 3.3V | 2.06 | 6.798 | 1.87 | 6.171 |
| 5VSB | 0.382 | 1.91 | 0.002 | 0.01 |

2.a.Test Environment:

The same as above but with LCD panel

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

Power Supply : CHANNEL WELL TECHNOLOGY CWT-300ATX12

| Voltage | MS-DOS Boot up | | Windows XP SP2 64-bit 3DMARK 2003 +PRIME95 | |
|-------------|-------------------|-------------|--|-------------|
| | Current (A) | Power (W) | Current (A) | Power (W) |
| 12V | 3.65 | 43.8 | 5.95 | 71.4 |
| 5V | 2.92 | 14.6 | 4.15 | 20.75 |
| 3.3V | 2.22 | 7.326 | 1.95 | 6.435 |
| 5VSB | 0.374 | 1.87 | 0.002 | 0.01 |

3.Test Environment:

| | |
|--------------------|--|
| Motherboard | MS-C73 |
| CPU | Intel® Core™ i5-2410M 2.30GHz |
| Memory | A-DATA DDR3 1600 4GB*2 (J2108BCSE-GN-F) |
| HDD | Western Digital WD5000AAKS-00V1A0 500GB |

(A)Power Supply : CHANNEL WELL TECHNOLOGY CWT-300ATX12

| Voltage | MS-DOS Boot up | | Windows XP SP2 64-bit 3DMARK 2003 +PRIME95 | |
|----------------|---------------------------|--------------------|---|--------------------|
| | Current (A) | Power (W) | Current (A) | Power (W) |
| 12V | 1.71 | 20.52 | 4.03 | 48.36 |
| 5V | 2.01 | 10.05 | 3.17 | 15.85 |
| 3.3V | 2.09 | 6.897 | 1.85 | 6.105 |
| 5VSB | 0.371 | 1.855 | 0.003 | 0.015 |

3.a.Test Environment:

The same as above but with LCD panel

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

Power Supply : CHANNEL WELL TECHNOLOGY CWT-300ATX12

| Voltage | MS-DOS Boot up | | Windows XP SP2 64-bit 3DMARK 2003 +PRIME95 | |
|-------------|-------------------|-------------|--|---------------|
| | Current (A) | Power (W) | Current (A) | Current (A) |
| 12V | 3.61 | 43.32 | 5.08 | 60.96 |
| 5V | 2.97 | 14.85 | 4.16 | 20.8 |
| 3.3V | 2.11 | 6.963 | 1.96 | 6.468 |
| 5VSB | 0.321 | 1.605 | 0.007 | 0.035 |

4.Test Environment:

| | |
|--------------------|---|
| Motherboard | MS-C73 |
| CPU | Intel® Celeron™ B810 1.60GHz |
| Memory | Kingston DDR3 1333 4GB*2 (D2568JENC PGD9U) |
| HDD | Western Digital WD5000AAKS-00V1A0 500GB |

Power Supply : CHANNEL WELL TECHNOLOGY CWT-300ATX12

| Voltage | MS-DOS Boot up | | Windows XP SP2 64-bit 3DMARK 2003 +PRIME95 | |
|----------------|---------------------------|--------------------|---|--------------------|
| | Current (A) | Power (W) | Current (A) | Power (W) |
| 12V | 1.71 | 20.52 | 2.52 | 30.24 |
| 5V | 2.18 | 10.9 | 2.89 | 14.45 |
| 3.3V | 2.07 | 6.831 | 1.85 | 6.105 |
| 5VSB | 0.392 | 1.96 | 0.005 | 0.025 |

4.a.Test Environment:

The same as above but with LCD panel

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

Power Supply : CHANNEL WELL TECHNOLOGY CWT-300ATX12

| Voltage | MS-DOS Boot up | | Windows XP SP2 64-bit 3DMARK 2003 +PRIME95 | |
|-------------|-------------------|-------------|--|-------------|
| | Current (A) | Power (W) | Current (A) | Power (W) |
| 12V | 3.27 | 39.24 | 4.46 | 53.52 |
| 5V | 2.87 | 14.35 | 4.01 | 20.05 |
| 3.3V | 2.16 | 7.128 | 1.86 | 6.138 |
| 5VSB | 0.357 | 1.785 | 0.006 | 0.03 |

5.Test Environment:

| | |
|--------------------|--|
| Motherboard | MS-C73 |
| CPU | Intel® Celeron™ B810 1.60GHz |
| Memory | A-DATA DDR3 1600 4GB*2 (J2108BCSE-GN-F) |
| HDD | Western Digital WD5000AAKS-00V1A0 500GB |

Power Supply : CHANNEL WELL TECHNOLOGY CWT-300ATX12

| Voltage | MS-DOS Boot up | | Windows XP SP2 64-bit 3DMARK 2003 +PRIME95 | |
|----------------|---------------------------|--------------------|---|--------------------|
| | Current (A) | Power (W) | Current (A) | Power (W) |
| 12V | 1.71 | 20.52 | 2.52 | 30.24 |
| 5V | 2.16 | 10.8 | 2.88 | 14.4 |
| 3.3V | 2.08 | 6.864 | 1.84 | 6.072 |
| 5VSB | 0.387 | 1.935 | 0.002 | 0.01 |

5.a.Test Environment:

The same as above but with LCD panel

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

Power Supply : CHANNEL WELL TECHNOLOGY CWT-300ATX12

| Voltage | MS-DOS Boot up | | Windows XP SP2 64-bit 3DMARK 2003 +PRIME95 | |
|-------------|-------------------|-------------|--|-------------|
| | Current (A) | Power (W) | Current (A) | Power (W) |
| 12V | 3.28 | 39.36 | 4.5 | 54 |
| 5V | 2.95 | 14.75 | 3.96 | 19.8 |
| 3.3V | 2.09 | 6.897 | 1.86 | 6.138 |
| 5VSB | 0.37 | 1.85 | 0.002 | 0.01 |

6.Test Environment:

| | |
|--------------------|--|
| Motherboard | MS-C73 |
| CPU | Intel® Core™ i3-2330E 2.20GHz |
| Memory | A-DATA DDR3 1600 4GB*2 (J2108BCSE-GN-F) |
| HDD | Western Digital WD5000AAKS-00V1A0 500GB |

Power Supply : CHANNEL WELL TECHNOLOGY CWT-300ATX12

| Voltage | MS-DOS Boot up | | Windows XP SP2 64-bit 3DMARK 2003 +PRIME95 | |
|----------------|---------------------------|--------------------|---|--------------------|
| | Current (A) | Power (W) | Current (A) | Power (W) |
| 12V | 3.64 | 43.68 | 3.97 | 47.64 |
| 5V | 2.02 | 10.1 | 2.91 | 14.55 |
| 3.3V | 2.3 | 7.59 | 2.22 | 7.326 |
| 5VSB | 0.358 | 1.79 | 0.004 | 0.02 |

6.a.Test Environment:

The same as above but with LCD panel

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

Power Supply : CHANNEL WELL TECHNOLOGY CWT-300ATX12

| Voltage | MS-DOS Boot up | | Windows XP SP2 64-bit 3DMARK 2003 +PRIME95 | |
|-------------|-------------------|-------------|--|-------------|
| | Current (A) | Power (W) | Current (A) | Power (W) |
| 12V | 3.97 | 47.64 | 5.08 | 60.96 |
| 5V | 2.95 | 14.75 | 4.18 | 20.9 |
| 3.3V | 2.27 | 7.491 | 2.14 | 7.062 |
| 5VSB | 0.322 | 1.61 | 0.003 | 0.015 |

7.Test Environment:

| | |
|--------------------|---|
| Motherboard | MS-C73 |
| CPU | Intel® Core™ i3-2330E 2.20GHz |
| Memory | Kingston DDR3 1333 4GB*2 (D2568JENC PGD9U) |
| HDD | Western Digital WD5000AAKS-00V1A0 500GB |

Power Supply : CHANNEL WELL TECHNOLOGY CWT-300ATX12

| Voltage | MS-DOS Boot up | | Windows XP SP2 64-bit 3DMARK 2003 +PRIME95 | |
|----------------|---------------------------|--------------------|---|--------------------|
| | Current (A) | Power (W) | Current (A) | Power (W) |
| 12V | 2.44 | 29.28 | 3.31 | 39.72 |
| 5V | 2.04 | 10.2 | 3.18 | 15.9 |
| 3.3V | 2.26 | 7.458 | 2.11 | 6.963 |
| 5VSB | 0.32 | 1.6 | 0.003 | 0.015 |

7.a.Test Environment:

The same as above but with LCD panel

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

Power Supply : CHANNEL WELL TECHNOLOGY CWT-300ATX12

| Voltage | MS-DOS Boot up | | Windows XP SP2 64-bit 3DMARK 2003 +PRIME95 | |
|-------------|-------------------|-------------|--|-------------|
| | Current (A) | Power (W) | Current (A) | Power (W) |
| 12V | 3.25 | 39 | 5.09 | 61.08 |
| 5V | 2.98 | 14.9 | 4.15 | 20.75 |
| 3.3V | 2.28 | 7.524 | 2.14 | 7.062 |
| 5VSB | 0.368 | 1.84 | 0.004 | 0.02 |

8.Test Environment:

| | |
|--------------------|--|
| Motherboard | MS-C73 |
| CPU | Intel® Core™ i7-2710QE 2.10GHz |
| Memory | A-DATA DDR3 1600 4GB*2 (J2108BCSE-GN-F) |
| HDD | Western Digital WD5000AAKS-00V1A0 500GB |

Power Supply : CHANNEL WELL TECHNOLOGY CWT-300ATX12

| Voltage | MS-DOS Boot up | | Windows XP SP2 64-bit 3DMARK 2003 +PRIME95 | |
|----------------|---------------------------|--------------------|---|--------------------|
| | Current (A) | Power (W) | Current (A) | Power (W) |
| 12V | 2.34 | 28.08 | 6.34 | 76.08 |
| 5V | 1.96 | 9.8 | 3.1 | 15.5 |
| 3.3V | 2.22 | 7.326 | 2.05 | 6.765 |
| 5VSB | 0.378 | 1.89 | 0.004 | 0.02 |

8.a.Test Environment:

The same as above but with LCD panel

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

Power Supply : CHANNEL WELL TECHNOLOGY CWT-300ATX12

| Voltage | MS-DOS Boot up | | Windows XP SP2 64-bit 3DMARK 2003 +PRIME95 | |
|-------------|-------------------|-------------|--|-------------|
| | Current (A) | Power (W) | Current (A) | Power (W) |
| 12V | 4.23 | 50.76 | 8.26 | 99.12 |
| 5V | 2.89 | 14.45 | 4.07 | 20.35 |
| 3.3V | 2.34 | 7.722 | 2.17 | 7.161 |
| 5VSB | 0.414 | 2.07 | 0.007 | 0.035 |

9.Test Environment:

| | |
|--------------------|--|
| Motherboard | MS-C73 |
| CPU | Intel® Core™ i7-2710QE 2.10GHz |
| Memory | Kingston DDR3 1333 8GB*2 (J4208BASE-DJ-F) |
| HDD | Western Digital WD10EALX-009BA0 1.0TB |

Power Supply : CHANNEL WELL TECHNOLOGY CWT-300ATX12

| Voltage | MS-DOS Boot up | | Windows XP SP2 64-bit 3DMARK 2003 +PRIME95 | |
|----------------|---------------------------|--------------------|---|--------------------|
| | Current (A) | Power (W) | Current (A) | Power (W) |
| 12V | 3.51 | 42.12 | 6.32 | 75.84 |
| 5V | 2.07 | 10.35 | 5.4 | 27 |
| 3.3V | 2.27 | 7.491 | 2.2 | 7.26 |
| 5VSB | 0.359 | 1.795 | 0.058 | 0.29 |

9.a.Test Environment:

The same as above but with LCD panel

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

Power Supply : CHANNEL WELL TECHNOLOGY CWT-300ATX12

| Voltage | MS-DOS Boot up | | Windows XP SP2 64-bit 3DMARK 2003 +PRIME95 | |
|-------------|-------------------|-------------|--|-------------|
| | Current (A) | Power (W) | Current (A) | Power (W) |
| 12V | 4.2 | 50.4 | 8.01 | 96.12 |
| 5V | 4.8 | 24 | 6.28 | 30.9 |
| 3.3V | 2.32 | 7.656 | 1.05 | 3.465 |
| 5VSB | 0.361 | 1.805 | 0.214 | 1.07 |

5. Performance Test

5.1 Business Win Stone 2002

Windows XP SP2

| WEIGHTED SUITE | Test Environment | Result | Remark |
|-----------------------------------|--|--------|------------------------------|
| Business Win stone2002 | Intel® Celeron™ B810 1.60GHz Kingston DDR3 1333 4GB*2 (D2568JENC PGD9U) Western Digital WD5000AAKS-00V1A0 500GB | PASS | 38.4 37.8 37.7 37.4 |
| Business Win stone2002 | Intel® Core™ i5-2510M 2.50GHz A-DATA DDR3 1600 4GB (J2108BCSE-GN-F) Western Digital WD5000AAKX-001CA0 500GB | PASS | 52 53.7 53.5 52.9 |

5.2 Business Win Stone 2004

Windows XP SP2

| WEIGHTED SUITE | Test Environment | Result | Remark |
|---------------------------|---|--------|------------------------------|
| Business Win stone2004 | Intel® Celeron™ B810 1.60GHz Kingston DDR3 1333 4GB*2 (D2568JENC PGD9U) Western Digital WD5000AAKS-00V1A0 500GB | PASS | 20.7 21.2 20.8 20.2 |
| Business Win stone2004 | Intel® Core™ i5-2510M 2.50GHz A-DATA DDR3 1600 4GB (J2108BCSE-GN-F) Western Digital WD10EALX-009BA0 1.0TB | PASS | 29.2 28.3 26 26.8 |
| Business Win stone2004 | Intel® Core™ 7-2710QE 2.10GHz A-DATA DDR3 1066 1GB (K4B1G0846D) Western Digital WD5000AAKX-001CA0 500GB | PASS | 28.5 28.1 27.2 27.9 |

5.3 Content Creation Winstone 2004

Windows XP SP2

| WEIGHTED SUITE | Test Environment | Result | Remark |
|--|---|-------------|--|
| <p>Content Creation Winstone 2004</p> | <p>Intel® Celeron™ B810 1.60GHz Kingston DDR3 1333 4GB*2 (D2568JENC PGD9U) Western Digital WD5000AAKS-00V1A0 500GB</p> | <p>PASS</p> | <p>30.3 30 30.2 29.8</p> |
| <p>Content Creation Winstone 2004</p> | <p>Intel® Core™ i5-2510M 2.50GHz A-DATA DDR3 1600 4GB (J2108BCSE-GN-F) Western Digital WD10EALX-009BA0 1.0TB</p> | <p>PASS</p> | <p>60.4 61.4 59.8 59.9</p> |
| <p>Content Creation Winstone 2004</p> | <p>Intel® Core™ 7-2710QE 2.10GHz A-DATA DDR3 1066 1GB (K4B1G0846D) Western Digital WD5000AAKX-001CA0 500GB</p> | <p>PASS</p> | <p>57.6 56.5 58.4 57.9</p> |

5.4 3D MARK(2001、2003、2005)

Windows XP SP2 32-bit

| WEIGHTED SUITE | Test Environment | Result | Remark |
|------------------|---|--------|--------|
| 3DMARK2001 Score | Intel® Core™ i5-2410M 2.30GHz Kingston DDR3 1333 4GB*2 (D2568JENC PGD9U) Western Digital WD5000AAKS-00V1A0 500GB | PASS | 18206 |
| 3DMARK2003 Score | | PASS | 10145 |
| 3DMARK2005 Score | | PASS | 7127 |

Windows XP SP2 64-bit

| WEIGHTED SUITE | Test Environment | Result | Remark |
|------------------|---|--------|--------------|
| 3DMARK2001 Score | Intel® Core™ i5-2410M 2.30GHz Kingston DDR3 1333 4GB*2 (D2568JENC PGD9U) Western Digital WD5000AAKS-00V1A0 500GB | N/A | NO SUPPLY |
| 3DMARK2003 Score | | PASS | 10055 |
| 3DMARK2005 Score | | PASS | 6985 |

Windows XP SP2 32-bit

| WEIGHTED SUITE | Test Environment | Result | Remark |
|-------------------------|---|---------------|---------------|
| 3DMARK2001 Score | Intel® Celeron™ B810 2.30GHz A-DATA DDR3 1600 4GB (J2108BCSE-GN-F) Western Digital WD5000AAKX-001CA0 500GB | PASS | 9856 |
| 3DMARK2003 Score | | PASS | 5593 |
| 3DMARK2005 Score | | PASS | 3822 |

Windows XP SP2 64-bit

| WEIGHTED SUITE | Test Environment | Result | Remark |
|-------------------------|---|---------------|---------------|
| 3DMARK2001 Score | Intel® Celeron™ B810 2.30GHz A-DATA DDR3 1600 4GB (J2108BCSE-GN-F) Western Digital WD5000AAKX-001CA0 500GB | N/A | NO SUPPLY |
| 3DMARK2003 Score | | PASS | 5592 |
| 3DMARK2005 Score | | PASS | 3815 |

Windows XP SP2 32-bit

| WEIGHTED SUITE | Test Environment | Result | Remark |
|-------------------------|--|---------------|---------------|
| 3DMARK2001 Score | Intel® Core™ i3-2330E 2.20GHz A-DATA DDR3 1066 1GB (K4B1G0846D) Western Digital WD5000AAKX-001CA0 500GB | PASS | 10133 |
| 3DMARK2003 Score | | PASS | 6306 |
| 3DMARK2005 Score | | PASS | 4095 |

Windows XP SP2 64-bit

| WEIGHTED SUITE | Test Environment | Result | Remark |
|-------------------------|--|---------------|---------------|
| 3DMARK2001 Score | Intel® Core™ i3-2330E 2.20GHz A-DATA DDR3 1066 1GB (K4B1G0846D) Western Digital WD5000AAKX-001CA0 500GB | N/A | NO SUPPLY |
| 3DMARK2003 Score | | PASS | 6260 |
| 3DMARK2005 Score | | PASS | 4020 |

5.5 3D MARK2006

Windows XP SP2 32-bit

| Item | WEIGHTED SUITE | Test Environment | Result | Remark |
|-------------|-----------------------|---|---------------|---------------|
| 1 | 3DMARK Score | Intel® Core™ i5-2410M 2.30GHz Kingston DDR3 1333 4GB*2 (D2568JENC PGD9U) Western Digital WD5000AAKS-00V1A0 500GB | PASS | 4284 |
| 2 | SM2.0 Score | | PASS | 1630 |
| 3 | HDR/SM3.0 Score | | PASS | 1550 |
| 4 | CPU Score | | PASS | 3059 |

Windows XP SP2 32-bit

| Item | WEIGHTED SUITE | Test Environment | Result | Remark |
|-------------|-----------------------|---|---------------|---------------|
| 1 | 3DMARK Score | Intel® Celeron™ B810 2.30GHz A-DATA DDR3 1600 4GB (J2108BCSE-GN-F) Western Digital WD5000AAKX-001CA0 500GB | PASS | 2330 |
| 2 | SM2.0 Score | | PASS | 860 |
| 3 | HDR/SM3.0 Score | | PASS | 879 |
| 4 | CPU Score | | PASS | 1577 |

Windows XP SP2 64-bit

| Item | WEIGHTED SUITE | Test Environment | Result | Remark |
|-------------|-----------------------|---|---------------|---------------|
| 1 | 3DMARK Score | Intel® Celeron™ B810 2.30GHz A-DATA DDR3 1600 4GB (J2108BCSE-GN-F) Western Digital WD5000AAKX-001CA0 500GB | PASS | 2278 |
| 2 | SM2.0 Score | | PASS | 836 |
| 3 | HDR/SM3.0 Score | | PASS | 863 |
| 4 | CPU Score | | PASS | 1553 |

Windows XP SP2 32-bit

| Item | WEIGHTED SUITE | Test Environment | Result | Remark |
|-------------|-----------------------|--|---------------|---------------|
| 1 | 3DMARK Score | Intel® Core™ i3-2330E 2.20GHz A-DATA DDR3 1066 1GB (K4B1G0846D) Western Digital WD5000AAKX-001CA0 500GB | PASS | 2641 |
| 2 | SM2.0 Score | | PASS | 939 |
| 3 | HDR/SM3.0 Score | | PASS | 971 |
| 4 | CPU Score | | PASS | 2656 |

Windows XP SP2 64-bit

| Item | WEIGHTED SUITE | Test Environment | Result | Remark |
|-------------|------------------------|--|---------------|---------------|
| 1 | 3DMARK Score | Intel® Core™ i3-2330E 2.20GHz A-DATA DDR3 1066 1GB (K4B1G0846D) Western Digital WD5000AAKX-001CA0 500GB | PASS | 2527 |
| 2 | SM2.0 Score | | PASS | 935 |
| 3 | HDR/SM3.0 Score | | PASS | 903 |
| 4 | CPU Score | | PASS | 2320 |

5.6 PC MARK2002

| |
|---|
| Test Environment |
| Intel® Core™ i5-2410M 2.30GHz Kingston DDR3 1333 4GB*2 (D2568JENC PGD9U) Western Digital WD5000AAKS-00V1A0 500GB |

Windows XP SP2 32-bit

| Item | Weighted Suite | Result | Remark |
|-------------|-----------------------|---------------|---------------|
| 1 | CPU Score | PASS | 11593 |
| 2 | Memory Score | PASS | 42045 |
| 3 | HDD Score | PASS | 2485 |

| |
|---|
| Test Environment |
| Intel® Celeron™ B810 2.30GHz A-DATA DDR3 1600 4GB (J2108BCSE-GN-F) Western Digital WD5000AAKX-001CA0 500GB |

Windows XP SP2 32-bit

| Item | Weighted Suite | Result | Remark |
|-------------|-----------------------|---------------|---------------|
| 1 | CPU Score | PASS | 6436 |
| 2 | Memory Score | PASS | 21239 |
| 3 | HDD Score | PASS | 2763 |

| |
|--|
| Test Environment |
| Intel® Core™ i3-2330E 2.20GHz A-DATA DDR3 1066 1GB (K4B1G0846D) Western Digital WD5000AAKX-001CA0 500GB |

Windows XP SP2 32-bit

| Item | Weighted Suite | Result | Remark |
|-------------|-----------------------|---------------|---------------|
| 1 | CPU Score | PASS | 8848 |
| 2 | Memory Score | PASS | 29148 |
| 3 | HDD Score | PASS | 2737 |

| |
|--|
| Test Environment |
| Intel® Core™ i3-2330E 2.20GHz A-DATA DDR3 1066 1GB (K4B1G0846D) Western Digital WD5000AAKX-001CA0 500GB |

Windows XP SP2 64-bit

| Item | Weighted Suite | Result | Remark |
|-------------|-----------------------|---------------|---------------|
| 1 | CPU Score | PASS | 8842 |
| 2 | Memory Score | PASS | 28446 |
| 3 | HDD Score | PASS | 3083 |

5.7 PC MARK2004

| |
|---|
| Test Environment |
| Intel® Core™ i5-2410M 2.30GHz Kingston DDR3 1333 4GB*2 (D2568JENC PGD9U) Western Digital WD5000AAKS-00V1A0 500GB |

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 | 11036 |
| 4 | Graphic Score | PASS | 5064 |
| 5 | HDD Score | PASS | 5892 |

| |
|---|
| Test Environment |
| Intel® Core™ i5-2410M 2.30GHz Kingston DDR3 1333 4GB*2 (D2568JENC PGD9U) Western Digital WD5000AAKS-00V1A0 500GB |

Windows XP PS2 64-bit

| Item | Weighted Suite | Result | Remark |
|-------------|-----------------------|---------------|---------------|
| 1 | PCMark Score | PASS | N/A |
| 2 | CPU Score | PASS | N/A |
| 3 | Memory Score | PASS | 11046 |
| 4 | Graphic Score | PASS | 5056 |
| 5 | HDD Score | PASS | 5738 |

| |
|---|
| Test Environment |
| Intel® Celeron™ B810 2.30GHz A-DATA DDR3 1600 4GB (J2108BCSE-GN-F) Western Digital WD5000AAKX-001CA0 500GB |

Windows XP PS2 32-bit

| Item | Weighted Suite | Result | Remark |
|------|----------------|--------|--------|
| 1 | PCMark Score | PASS | 5888 |
| 2 | CPU Score | PASS | N/A |
| 3 | Memory Score | PASS | 6026 |
| 4 | Graphic Score | PASS | 2647 |
| 5 | HDD Score | PASS | N/A |

| |
|---|
| Test Environment |
| Intel® Celeron™ B810 2.30GHz A-DATA DDR3 1600 4GB (J2108BCSE-GN-F) Western Digital WD5000AAKX-001CA0 500GB |

Windows XP PS2 64-bit

| Item | WEIGHTED SUITE | Result | Remark |
|------|----------------|--------|--------|
| 1 | PCMark Score | PASS | 5705 |
| 2 | CPU Score | PASS | N/A |
| 3 | Memory Score | PASS | 6014 |
| 4 | Graphic Score | PASS | 2673 |
| 5 | HDD Score | PASS | 6084 |

| |
|--|
| Test Environment |
| Intel® Core™ i3-2330E 2.20GHz A-DATA DDR3 1066 1GB (K4B1G0846D) Western Digital WD5000AAKX-001CA0 500GB |

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 | 6470 |
| 4 | Graphic Score | PASS | 3568 |
| 5 | HDD Score | PASS | N/A |

| |
|--|
| Test Environment |
| Intel® Core™ i3-2330E 2.20GHz A-DATA DDR3 1066 1GB (K4B1G0846D) Western Digital WD5000AAKX-001CA0 500GB |

Windows XP PS2 64-bit

| Item | WEIGHTED SUITE | Result | Remark |
|------|----------------|--------|--------|
| 1 | PCMark Score | PASS | N/A |
| 2 | CPU Score | PASS | N/A |
| 3 | Memory Score | PASS | 6516 |
| 4 | Graphic Score | PASS | 3454 |
| 5 | HDD Score | PASS | 6141 |

5.8 PC MARK2005

| |
|---|
| Test Environment |
| Intel® Core™ i5-2410M 2.30GHz Kingston DDR3 1333 4GB*2 (D2568JENC PGD9U) Western Digital WD5000AAKS-00V1A0 500GB |

Windows XP SP2 32-bit

| Item | Weighted Suite | Result | Remark |
|------|----------------|--------|--------|
| 1 | PCMark Score | PASS | 6938 |
| 2 | CPU Score | PASS | 8338 |
| 3 | Memory Score | PASS | 9387 |
| 4 | Graphic Score | PASS | 4846 |
| 5 | HDD Score | PASS | 6933 |

| |
|---|
| Test Environment |
| Intel® Core™ i5-2410M 2.30GHz Kingston DDR3 1333 4GB*2 (D2568JENC PGD9U) Western Digital WD5000AAKS-00V1A0 500GB |

Windows XP SP2 64-bit

| Item | Weighted Suite | Result | Remark |
|------|----------------|--------|--------|
| 1 | PCMark Score | PASS | 6832 |
| 2 | CPU Score | PASS | 8311 |
| 3 | Memory Score | PASS | 9386 |
| 4 | Graphic Score | PASS | 4962 |
| 5 | HDD Score | PASS | 6952 |

| |
|--|
| Test Environment |
| Intel® Core™ i5-2410M 2.30GHz A-DATA DDR3 1600 4GB*2 (J2108BCSE-GN-F) Western Digital WD5000AAKS-00V1A0 500GB |

Windows XP SP2 32-bit

| Item | Weighted Suite | Result | Remark |
|------|----------------|--------|--------|
| 1 | PCMark Score | PASS | 6776 |
| 2 | CPU Score | PASS | 8340 |
| 3 | Memory Score | PASS | 9619 |
| 4 | Graphic Score | PASS | 4822 |
| 5 | HDD Score | PASS | 6988 |

| |
|--|
| Test Environment |
| Intel® Core™ i5-2410M 2.30GHz A-DATA DDR3 1600 4GB*2 (J2108BCSE-GN-F) Western Digital WD5000AAKS-00V1A0 500GB |

Windows XP SP2 64-bit

| Item | Weighted Suite | Result | Remark |
|------|----------------|--------|--------|
| 1 | PCMark Score | PASS | 6938 |
| 2 | CPU Score | PASS | 8313 |
| 3 | Memory Score | PASS | 9608 |
| 4 | Graphic Score | PASS | 5008 |
| 5 | HDD Score | PASS | 7000 |

| |
|--|
| Test Environment |
| Intel® Core™ i7-2710QE 2.10GHz Kingston DDR3 1066 4GB (K4B2G0846B-HCFB) Western Digital WD5000AAKS-00V1A0 500GB |

Windows XP SP2 32-bit

| Item | Weighted Suite | Result | Remark |
|------|----------------|--------|--------|
| 1 | PCMark Score | PASS | 7336 |
| 2 | CPU Score | PASS | 10008 |
| 3 | Memory Score | PASS | 8078 |
| 4 | Graphic Score | PASS | 3955 |
| 5 | HDD Score | PASS | 6961 |

| |
|--|
| Test Environment |
| Intel® Core™ i7-2710QE 2.10GHz Kingston DDR3 1066 4GB (K4B2G0846B-HCFB) Western Digital WD5000AAKS-00V1A0 500GB |

Windows XP SP2 64-bit

| Item | Weighted Suite | Result | Remark |
|------|----------------|--------|--------|
| 1 | PCMark Score | PASS | 7274 |
| 2 | CPU Score | PASS | 9995 |
| 3 | Memory Score | PASS | 8075 |
| 4 | Graphic Score | PASS | 4029 |
| 5 | HDD Score | PASS | 6930 |

| |
|---|
| Test Environment |
| Intel® Core™ i7-2710QE 2.10GHz A-DATA DDR3 1066 2GB (K4B1G0846D) Western Digital WD5000AAKS-00V1A0 500GB |

Windows XP SP2 32-bit

| Item | WEIGHTED SUITE | Result | Remark |
|------|----------------|--------|--------|
| 1 | PCMark Score | PASS | 7321 |
| 2 | CPU Score | PASS | 9999 |
| 3 | Memory Score | PASS | 8084 |
| 4 | Graphic Score | PASS | 4022 |
| 5 | HDD Score | PASS | 7015 |

| |
|---|
| Test Environment |
| Intel® Core™ i7-2710QE 2.10GHz A-DATA DDR3 1066 2GB (K4B1G0846D) Western Digital WD5000AAKS-00V1A0 500GB |

Windows XP SP2 64-bit

| Item | Weighted Suite | Result | Remark |
|------|----------------|--------|--------|
| 1 | PCMark Score | PASS | 7275 |
| 2 | CPU Score | PASS | 9981 |
| 3 | Memory Score | PASS | 8093 |
| 4 | Graphic Score | PASS | 4038 |
| 5 | HDD Score | PASS | 6629 |

| |
|--|
| Test Environment |
| Intel® Celeron™ B810 1.60GHz Kingston DDR3 1333 4GB*2 (D2568JENC PGD9U) Western Digital WD5000AAKS-00V1A0 500GB |

Windows XP SP2 32-bit

| Item | WEIGHTED SUITE | Result | Remark |
|------|----------------|--------|--------|
| 1 | PCMark Score | PASS | 4338 |
| 2 | CPU Score | PASS | 4487 |
| 3 | Memory Score | PASS | 4752 |
| 4 | Graphic Score | PASS | 2650 |
| 5 | HDD Score | PASS | 6592 |

| |
|--|
| Test Environment |
| Intel® Core™ i3-2330E 2.20GHz A-DATA DDR3 1600 4GB*2 (J2108BCSE-GN-F) Western Digital WD5000AAKS-00V1A0 500GB |

Windows XP SP2 32-bit

| Item | WEIGHTED SUITE | Result | Remark |
|------|----------------|--------|--------|
| 1 | PCMark Score | PASS | 5731 |
| 2 | CPU Score | PASS | 6674 |
| 3 | Memory Score | PASS | 7552 |
| 4 | Graphic Score | PASS | 3721 |
| 5 | HDD Score | PASS | 6680 |

| |
|--|
| Test Environment |
| Intel® Core™ i3-2330E 2.20GHz A-DATA DDR3 1600 4GB*2 (J2108BCSE-GN-F) Western Digital WD5000AAKS-00V1A0 500GB |

Windows XP SP2 64-bit

| Item | Weighted Suite | Result | Remark |
|-------------|-----------------------|---------------|---------------|
| 1 | PCMark Score | PASS | 5691 |
| 2 | CPU Score | PASS | 6674 |
| 3 | Memory Score | PASS | 7529 |
| 4 | Graphic Score | PASS | 3158 |
| 5 | HDD Score | PASS | 5815 |

| |
|---|
| Test Environment |
| Intel® Core™ i3-2330E 2.20GHz A-DATA DDR3 1066 1GB (K4B1G0846D) Transcend DDR3 1066 1GB (K4B1G0846D) Western Digital WD5000AAKS-00V1A0 500GB |

Windows XP SP2 32-bit

| Item | WEIGHTED SUITE | Result | Remark |
|-------------|-----------------------|---------------|---------------|
| 1 | PCMark Score | PASS | 5658 |
| 2 | CPU Score | PASS | 6677 |
| 3 | Memory Score | PASS | 7345 |
| 4 | Graphic Score | PASS | 3912 |
| 5 | HDD Score | PASS | 5682 |

| |
|---|
| Test Environment |
| Intel® Core™ i3-2330E 2.20GHz A-DATA DDR3 1066 1GB (K4B1G0846D) Transcend DDR3 1066 1GB (K4B1G0846D) Western Digital WD5000AAKS-00V1A0 500GB |

Windows XP SP2 64-bit

| Item | Weighted Suite | Result | Remark |
|------|----------------|--------|--------|
| 1 | PCMark Score | PASS | 5822 |
| 2 | CPU Score | PASS | 6672 |
| 3 | Memory Score | PASS | 7391 |
| 4 | Graphic Score | PASS | 3890 |
| 5 | HDD Score | PASS | 6417 |

| |
|---|
| Test Environment |
| Intel® Celeron™ B810 2.30GHz A-DATA DDR3 1600 4GB (J2108BCSE-GN-F) Western Digital WD5000AAKX-001CA0 500GB |

Windows XP SP2 64-bit

| Item | Weighted Suite | Result | Remark |
|------|----------------|--------|--------|
| 1 | PCMark Score | PASS | 4168 |
| 2 | CPU Score | PASS | 4458 |
| 3 | Memory Score | PASS | 5572 |
| 4 | Graphic Score | PASS | 2340 |
| 5 | HDD Score | PASS | 7210 |

| |
|---|
| Test Environment |
| Intel® Core™ i7-2710QE 2.10GHz Kingston DDR3 1333 8GB*2 (J4208BASE-DJ-F) Western Digital WD10EALX-009BA0 1.0TB |

Windows XP SP2 64-bit

| Item | Weighted Suite | Result | Remark |
|-------------|-----------------------|---------------|---------------|
| 1 | PCMark Score | PASS | 7266 |
| 2 | CPU Score | PASS | 9465 |
| 3 | Memory Score | PASS | 9762 |
| 4 | Graphic Score | PASS | 4360 |
| 5 | HDD Score | PASS | 8180 |

| |
|---|
| Test Environment |
| Intel® Core™ i7-2710QE 2.10GHz INNODISK DDR3 1333 4GB (H5TQ2G83CFR) INNODISK DDR3 1333 2GB (H5TQ2G83CFR) Western Digital WD10EALX-009BA0 1.0TB |

Windows XP SP2 64-bit

| Item | Weighted Suite | Result | Remark |
|-------------|-----------------------|---------------|---------------|
| 1 | PCMark Score | PASS | 7793 |
| 2 | CPU Score | PASS | 9879 |
| 3 | Memory Score | PASS | 9784 |
| 4 | Graphic Score | PASS | 4409 |
| 5 | HDD Score | PASS | 8035 |

5.9 Storage Performance

5.9.1 HDD

Test environment:

OS Windows XP professional SP2

Program (HD Tune)

| HDD Model | Interface | Capacity | Average | Burst Rate | Access time |
|---------------------------------------|-----------|----------|-----------------|-----------------|-------------|
| Hitachi HTS543216L9A300 | SATA | 160 GB | 42.9 MB/sec | 75.7 MB/sec | 17.8 ms |
| Western Digital WD3200AAJS-00YZCA0 | SATA | 320 GB | 88.5 MB/sec | 140.2 MB/sec | 15.5 ms |
| Western Digital WD5000AAKX-001CA0 | SATA | 500 GB | 100.2 MB/sec | 156.8 MB/sec | 15.7 ms |
| Western Digital WD5000AAKS-00V1A0 | SATA | 500 GB | 77.2 MB/sec | 83.2 MB/sec | 15.4 ms |
| Western Digital WD10EALX-009BA0 | SATA | 1.0 TB | 99.8 MB/sec | 108.9 MB/sec | 13.6 ms |
| TDK LoR Trans-It Drive | USB | 4 GB | 14.7 MB/sec | 15.7 MB/sec | 1.0 ms |
| Apacer USB FLASH DRIVE | USB | 515 MB | 8.5 MB/sec | 4.5 MB/sec | 1.9 ms |

5.9.2 DVD-ROM

Test environment:

OS Windows XP professional SP2

Program (NERO)

| DVD-ROM Model | Interface | Average Speed | Full Read | Burst Rate | CD |
|---------------------------|-----------|---------------|-----------|------------|--------------|
| LG DVD GH20NS15 | SATA | 35.44 x | 173 ms | 35 MB/s | 52 X CD-R |
| PIONEER DVD DVR-S19LBK | SATA | 29.69 x | 161 ms | 54 MB/s | 52 X CD-R |
| PIONEER DVD DVR-212BK | SATA | 29.95 x | 192 ms | 41 MB/s | 52 X CD-R |
| LITEON DVD SOSC-2485KX | USB | 16.22 x | 352 ms | 20 MB/s | 52 X CD-R |
| LITEON DVD SOSW-833XS | USB | 17.91 x | 196 ms | 20 MB/s | 52X CD-R |
| LITEON DVD eTAU108 | USB | 17.89 x | 276 ms | 17 MB/s | 52X CD-R |

5.10 Vibration Test

| Motherboard | MS-C73 | | | |
|----------------|----------|---------------|----------------------|--------|
| Test Equipment | VS-5060L | | | |
| Amplitude | Degree | Frequency | Time (1min/1Time) | Result |
| 0.75mm | 40 | 5 → 55 → 5 Hz | 10 | PASS |
| 1.00mm | 55 | 5 → 55 → 5 Hz | 10 | PASS |
| 1.25mm | 70 | 5 → 55 → 5 Hz | 10 | PASS |
| 1.5mm | 90 | 5 → 55 → 5 Hz | 10 | PASS |
| 1.5mm | 90 | 5 → 55 → 5 Hz | 120 | PASS |