

Product Test Report



| | |
|-------------------------|-------------------|
| Product Name | LV-67G |
| Product Version | A |
| Issued Date | 2016.03.02 |
| Report Edition | 1.2 |
| BIOS Version | 2.1 |
| Testing Engineer | PERRY |

REVISION HISTORY

| DATE | REVISION NO. | PAGE | DESCRIPTONS |
|------------|--------------|------|--------------------------------|
| 2011.09.28 | Ver. 1.0 | 66 | Initial Release |
| 2014.08.25 | Ver. 1.1 | 66 | Add OS (Ubuntu 12.04) |
| 2016.03.02 | Ver. 1.2 | 66 | Add CPU Test (i7-3770&i7-2600) |

Index

| | |
|---|----------|
| Index | 2 |
| 1. Function test | 4 |
| 1.1 Hardware functions | 4 |
| 1.2 BIOS function | 6 |
| 1.3 Driver..... | 8 |
| 2. Compatibility test | 11 |
| 2.1 CPU Test | 11 |
| 2.2 Memory Test..... | 12 |
| 2.3 VGA Graphic Quality Test..... | 13 |
| 2.4 Audio | 14 |
| 2.5 HDD Test..... | 18 |
| 2.6 CD-ROM Test | 19 |
| 2.7 USB Test | 20 |
| 2.8 Serial Port Test..... | 24 |
| 2.9 PS2 Keyboard 、 Mouse Test..... | 27 |
| 2.10 LAN Test..... | 30 |
| 2.11 Power Supply Test | 33 |
| 2.12 Os Install | 34 |
| 2.13 PCI Express Mini Card | 35 |
| 2.14 Mini PCI Card | 36 |
| 3. Environmental test..... | 37 |
| 3.1 Temperature Test..... | 37 |
| 3.2 Thermal measurements at various points on the board | 40 |
| 4. Reliability Test..... | 43 |
| 4.1 Power Consumption Test..... | 43 |
| 5. Performance Test | 46 |
| 5.1 3D MARK(2001 、 2003 、 2005) | 46 |

Windows XP SP2 46

5.2 3D MARK2006 49

5.3 PC MARK2002..... 52

5.4 PC MARK2004 55

5.5 PC MARK2005..... 58

5.6 AQUAMARK3 61

5.7 CINEBENCH 62

5.8 ZD CPUMARK..... 64

5.9 Storage Performance 65

1. Function test

1.1 Hardware functions

Base Function Test

| Item | Description | Result |
|------|--------------------|--------|
| 1 | Power Button | Pass |
| 2 | Reset | Pass |
| 3 | Power LED | Pass |
| 4 | HDD LED | Pass |
| 5 | CPUFAN | Pass |
| 6 | SYSFAN | Pass |
| 7 | AUDIO | Pass |
| 8 | CN_AUDIO | Pass |
| 9 | LAN1 | Pass |
| 10 | LAN2 | Pass |
| 11 | DDRIII | Pass |
| 12 | SATA1/2/3/4 | Pass |
| 13 | USB1/2/3/4/5/6/7/8 | Pass |
| 14 | SPDIF | Pass |
| 15 | CN_DIO | Pass |
| 16 | CN_IR | Pass |
| 17 | CN_SMBUS | Pass |
| 18 | COM1/2/3/4 | Pass |
| 19 | CD_IN | Pass |
| 20 | MINI_CRAD | Pass |
| 21 | MINIPCI | Pass |
| 22 | PCIEX16 | Pass |

Jumper

| Item | Description | Result |
|-------------|--------------------|---------------|
| 1 | JRTC | Pass |
| 2 | JAT | Pass |
| 4 | JP1 | Pass |
| 5 | JP2 | Pass |
| 6 | JCSEL1 | Pass |
| 7 | JCSEL2 | Pass |
| 8 | JVUSB | Pass |

1.2 BIOS function

| Item | Description | Result | Remark |
|------|----------------------------------|--------|-----------|
| 1 | Press 'Del' to run Setup Utility | Pass | |
| 2 | Ctrl-Alt-Del – Soft-Reboot | Pass | |
| 3 | Save & Exit Setup | Pass | |
| 4 | Date & Time Setting | Pass | |
| 5 | Halt On | Pass | |
| 6 | Boot priority order | Pass | |
| 7 | Keyboard Features Num Lock | Pass | |
| 8 | Console Redirection | Pass | |
| 9 | Smart Fan | Pass | |
| 10 | Shutdown Temperature | Pass | |
| 11 | CPU Warning Temperature | Pass | (VER:1.3) |
| 12 | Watch Dog Timer | Pass | |
| 13 | Set Supervisor Password | Pass | |
| 14 | Set User Password | Pass | |
| 15 | Diagnostic Splash Screen | Pass | |
| 16 | Diagnostic Summary Screen | Pass | |
| 17 | Active Processor Cores | Pass | |
| 18 | SATA Device | Pass | |
| 19 | DVMT Total GFX MEM | Pass | |
| 20 | IGD-Boot Type | Pass | |
| 21 | Power Control | Pass | |
| 22 | Memory Frequency | Pass | |
| 23 | HDD(AHCI)(XP) | Pass | |
| 24 | HDD(AHCI)(Win 7) | Pass | |

| Item | Description | Result | Remark |
|-------------|-------------------------|---------------|---------------|
| 25 | HDD(RAID)(XP) | Pass | |
| 26 | HDD(RAID)(Win 7) | Pass | |
| 27 | Power Loss | Pass | |

1.3 Driver

CD diction : IPCI4-1.0

1. Windows XP 32 bit Driver Test

| Item | Description | Result | version |
|------|----------------|--------|--------------|
| 1 | Chipset Driver | Pass | 9.2.0.1030 |
| 2 | VGA Driver | Pass | 6.14.10.5374 |
| 3 | Audio Driver | Pass | 6.0.1.6449 |
| 4 | LAN Driver | Pass | 11.7.32.0 |

2. Windows XP 64 bit Driver Test

| Item | Description | Result | version |
|------|----------------|--------|--------------|
| 1 | Chipset Driver | Pass | 9.2.0.1030 |
| 2 | VGA Driver | Pass | 6.14.10.5374 |
| 3 | Audio Driver | Pass | 6.0.1.6449 |
| 4 | LAN Driver | Pass | 11.7.32.0 |

3. Windows 7 32 bit Driver Test

| Item | Description | Result | version |
|------|----------------|--------|--------------|
| 1 | Chipset Driver | Pass | 9.2.0.1030 |
| 2 | VGA Driver | Pass | 8.15.10.2509 |
| 3 | Audio Driver | Pass | 6.0.1.6449 |
| 4 | LAN Driver | Pass | 11.7.32.0 |

4. Windows 7 64 bit Driver Test

| Item | Description | Result | version |
|------|----------------|--------|--------------|
| 1 | Chipset Driver | Pass | 9.2.0.1030 |
| 2 | VGA Driver | Pass | 8.15.10.2509 |
| 3 | Audio Driver | Pass | 6.0.1.6449 |
| 4 | LAN Driver | Pass | 11.7.32.0 |

5. Windows Vista 32 bit Driver Test

| Item | Description | Result | version |
|------|----------------|--------|---------------|
| 1 | Chipset Driver | Pass | 9.2.0.1030 |
| 2 | VGA Driver | Pass | 15.22.50.2509 |
| 3 | Audio Driver | Pass | 6.0.1.6449 |
| 4 | LAN Driver | Pass | 11.7.32.0 |

6. Windows Vista 64 bit Driver Test

| Item | Description | Result | version |
|------|----------------|--------|---------------|
| 1 | Chipset Driver | Pass | 9.2.0.1030 |
| 2 | VGA Driver | Pass | 15.22.50.2509 |
| 3 | Audio Driver | Pass | 6.0.1.6449 |
| 4 | LAN Driver | Pass | 11.7.32.0 |

7. Windows 2008 32 bit Driver Test

| Item | Description | Result | Version |
|------|----------------|--------|------------|
| 1 | Chipset Driver | Pass | 9.2.0.1030 |
| 2 | Audio Driver | Pass | 6.0.1.6449 |
| 3 | LAN Driver | Pass | 11.7.32.0 |

8. Windows 2008 64 bit Driver Test

| Item | Description | Result | Version |
|------|----------------|--------|------------|
| 1 | Chipset Driver | Pass | 9.2.0.1030 |
| 2 | Audio Driver | Pass | 6.0.1.6449 |
| 3 | LAN Driver | Pass | 11.7.32.0 |

9. Windows Server 2003 32 bit Driver Test

| Item | Description | Result | version |
|------|----------------|--------|------------|
| 1 | Chipset Driver | Pass | 9.2.0.1030 |
| 2 | Audio Driver | Pass | 6.0.1.6449 |
| 3 | LAN Driver | Pass | 11.7.32.0 |

10. Windows Server 2003 64 bit Driver Test

| Item | Description | Result | version |
|------|----------------|--------|------------|
| 1 | Chipset Driver | Pass | 9.2.0.1030 |
| 2 | Audio Driver | Pass | 6.0.1.6449 |
| 3 | LAN Driver | Pass | 11.7.32.0 |

2. Compatibility test

2.1 CPU Test

Test environment:

OS: Windows XP professional SP2

Test program : PC MARK 2005

| Spec | Clock Speed | Family | Processor | DMI | Cache Size | Result |
|-----------------------|-----------------|-------------|----------------|---------------|-------------|--------|
| <u>SR00Q</u> | 3.10 GHz | Core | i5-2400 | 5 GT/s | 6 MB | Pass |
| <u>SR02K</u> | 2.9 GHz | Core | i5-2310 | 5 GT/s | 6 MB | Pass |
| <u>SR00P</u> | 3.40 GHz | Xeon | E3-1275 | 5 GT/s | 8 MB | Pass |
| <u>SR05J</u> | 2.5 GHz | Celeron | G540 | 5 GT/s | 2 MB | Pass |
| SR0PK | 3.40 GHz | Core | i7-3770 | 5 GT/s | 8 MB | PASS |
| SR00B | 3.80 GHz | Core | i7-2600 | 5 GT/s | 8 MB | PASS |

2.2 Memory Test

Test environment:

OS: Windows XP professional SP2

Test program : PC MARK 2005

| Manufacturer | Chip | DDRII frequency | Capacity Mbytes | Memory test Source |
|--------------|---------------------|-----------------|-----------------|--------------------|
| Kingston | KHX1600 C9D3P1K2 | DDRIII 1600 | 4GB | Pass |
| Kingston | KVR1333 D3N9 | DDRIII 1333 | 4GB | Pass |
| TLA | AD3LHS4 GE1WB-BGGAB | DDRIII 1066 | 4GB | Pass |

2.3 VGA Graphic Quality Test

Test environment:

OS Windows XP professional SP2

Driver version : 6.14.10.5374

| Resolution | Color | Result | Remark |
|-------------|-----------|--------|--------|
| 800 x 600 | 16 /32bit | Pass | |
| 1024 x 768 | 16 /32bit | Pass | |
| 1152 x 864 | 16 /32bit | Pass | |
| 1280 x 600 | 16 /32bit | Pass | |
| 1280 x 720 | 16 /32bit | Pass | |
| 1280 x 768 | 16 /32bit | Pass | |
| 1280 x 800 | 16 /32bit | Pass | |
| 1280 x 960 | 16 /32bit | Pass | |
| 1280 x 1024 | 16 /32bit | Pass | |
| 1360 x 768 | 16 /32bit | Pass | |
| 1366 x 768 | 16 /32bit | Pass | |
| 1400 x 1050 | 16 /32bit | Pass | |
| 1440 x 900 | 16 /32bit | Pass | |
| 1600 x 900 | 16 /32bit | Pass | |
| 1600 x 1200 | 16 /32bit | Pass | |
| 1600 x 1050 | 16 /32bit | Pass | |
| 1792 x 1344 | 16 /32bit | Pass | |
| 1920 x 1080 | 16 /32bit | Pass | |

2.4 Audio

Test environment:

OS Windows XP professional SP2

Driver version : 6.0.1.6449

| Item | Description | Result | Remark |
|------|-------------|--------|--------|
| 1 | 2.1CH | Pass | |
| 2 | Microphone | Pass | |
| 3 | LINE | Pass | |
| 4 | CDIN | Pass | |
| 5 | SPDIF | Pass | |

OS Windows XP professional x64 Edition

Driver version : 6.0.1.6449

| Item | Description | Result | Remark |
|------|-------------|--------|--------|
| 1 | 2.1CH | Pass | |
| 2 | Microphone | Pass | |
| 3 | LINE | Pass | |
| 4 | CDIN | Pass | |
| 5 | SPDIF | Pass | |

OS Windows 7 32 bit

Driver version : 6.0.1.6449

| Item | Description | Result | Remark |
|------|-------------|--------|--------|
| 1 | 2.1CH | Pass | |
| 2 | Microphone | Pass | |
| 3 | LINE | Pass | |
| 4 | CDIN | Pass | |
| 5 | SPDIF | Pass | |

OS Windows 7 64 bit

Driver version : 6.0.1.6449

| Item | Description | Result | Remark |
|------|-------------|--------|--------|
| 1 | 2.1CH | Pass | |
| 2 | Microphone | Pass | |
| 3 | LINE | Pass | |
| 4 | CDIN | Pass | |
| 5 | SPDIF | Pass | |

OS Windows Vista 32 bit

Driver version : 6.0.1.6449

| Item | Description | Result | Remark |
|------|-------------|--------|--------|
| 1 | 2.1CH | Pass | |
| 2 | Microphone | Pass | |
| 3 | LINE | Pass | |
| 4 | CDIN | Pass | |
| 5 | SPDIF | Pass | |

OS Windows Vista 64 bit

Driver version : 6.0.1.6449

| Item | Description | Result | Remark |
|------|-------------|--------|--------|
| 1 | 2.1CH | Pass | |
| 2 | Microphone | Pass | |
| 3 | LINE | Pass | |
| 4 | CDIN | Pass | |
| 5 | SPDIF | Pass | |

OS Windows 2008 32 bit

Driver version : 6.0.1.6449

| Item | Description | Result | Remark |
|------|-------------|--------|--------|
| 1 | 2.1CH | Pass | |
| 2 | Microphone | Pass | |
| 3 | LINE | Pass | |
| 4 | CDIN | Pass | |
| 5 | SPDIF | Pass | |

OS Windows 2008 64 bit

Driver version : 6.0.1.6449

| Item | Description | Result | Remark |
|------|-------------|--------|--------|
| 1 | 2.1CH | Pass | |
| 2 | Microphone | Pass | |
| 3 | LINE | Pass | |
| 4 | CDIN | Pass | |
| 5 | SPDIF | Pass | |

OS Windows SERVER 2003 32 bit

Driver version : 6.0.1.6449

| Item | Description | Result | Remark |
|------|-------------|--------|--------|
| 1 | 2.1CH | Pass | |
| 2 | Microphone | Pass | |
| 3 | LINE | Pass | |
| 4 | CDIN | Pass | |
| 5 | SPDIF | Pass | |

OS Windows SERVER 2003 64bit

Driver version : 6.0.1.6449

| Item | Description | Result | Remark |
|------|-------------|--------|--------|
| 1 | 2.1CH | Pass | |
| 2 | Microphone | Pass | |
| 3 | LINE | Pass | |
| 4 | CDIN | Pass | |
| 5 | SPDIF | Pass | |

2.5 HDD Test

Test environment:

OS Windows XP professional SP2

| HDD MODEL | INTERFACE | capacity | HDD Size Detect | HDD Data Transfer | HDD LED Check |
|-------------------------------|-----------|----------|-----------------|-------------------|---------------|
| Western Digital WD3200BEKT | SATA | 320GB | Pass | Pass | Pass |
| Western Digital WD10EARS | SATA | 1.0TB | Pass | Pass | Pass |
| Western Digital WD10EALX | SATA | 1.0TB | Pass | Pass | Pass |

2.6 CD-ROM Test

Test environment:

OS Windows XP professional SP2

| CD-ROM MODEL | INTERFACE | CD-ROM Detect | CD-ROM Data Transfer | PLAY DVD |
|-------------------------------|------------------|----------------------|-----------------------------|-----------------|
| PIONEER DVR-S19LBK | SATA | Pass | Pass | Pass |
| LG GH20NS15 | SATA | Pass | Pass | Pass |
| LITEON DVD ETAU108 | USB | Pass | Pass | Pass |

2.7 USB Test

1. Windows XP SP2

| 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 XP 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 7 32 bit

| Item | Result | Remark |
|----------------------------|--------|--------|
| External USB Keyboard Test | Pass | |
| External USB Mouse Test | Pass | |
| Hot plugging test | Pass | |
| CD ROM | Pass | |
| USB Mass storage | Pass | |

4. Windows 7 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 Vista 32 bit

| Item | Result | Remark |
|----------------------------|--------|--------|
| External USB Keyboard Test | Pass | |
| External USB Mouse Test | Pass | |
| Hot plugging test | Pass | |
| CD ROM | Pass | |
| USB Mass storage | Pass | |

6. Windows Vista 64 bit

| Item | Result | Remark |
|----------------------------|--------|--------|
| External USB Keyboard Test | Pass | |
| External USB Mouse Test | Pass | |
| Hot plugging test | Pass | |
| CD ROM | Pass | |
| USB Mass storage | Pass | |

7. Windows 2008 32 bit

| Item | Result | Remark |
|----------------------------|--------|--------|
| External USB Keyboard Test | Pass | |
| External USB Mouse Test | Pass | |
| Hot plugging test | Pass | |
| CD ROM | Pass | |
| USB Mass storage | Pass | |

8. Windows 2008 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 | |

9. Windows Server 2003 32 bit

| Item | Result | Remark |
|----------------------------|--------|--------|
| External USB Keyboard Test | Pass | |
| External USB Mouse Test | Pass | |
| Hot plugging test | Pass | |
| CD ROM | Pass | |
| USB Mass storage | Pass | |

10. Windows Server 2003 64bit

| Item | Result | Remark |
|----------------------------|--------|--------|
| External USB Keyboard Test | Pass | |
| External USB Mouse Test | Pass | |
| Hot plugging test | Pass | |
| CD ROM | Pass | |
| USB Mass storage | Pass | |

2.8 Serial Port Test

1. MS-DOS

| Item | Description | Result | Remark |
|------|-------------|--------|--------|
| 1 | RS-422 | Pass | |
| 2 | RS-485 | Pass | |
| 3 | CHKIT | Pass | |

2. Windows XP SP2

| 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 64 bit

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

4. Windows 7 32 bit

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

5. Windows 7 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 2008 32 bit

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

9. Windows 2008 64 bit

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

10. Windows Server 2003

| Item | Description | Result | Remark |
|------|----------------------|--------|--------|
| 1 | Device Manager Check | Pass | |
| 2 | RS-232 Mouse Test | Pass | |
| 3 | B&B com port test | Pass | |

11. Windows Server 2003 64 bit

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

2.9 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

| Item | Description | Result | Remark |
|------|----------------------|--------|--------|
| 1 | Device Manager Check | Pass | |
| 2 | Keyboard Typing Test | Pass | |
| 3 | Mouse Detect Test | Pass | |

3. Windows XP 64 bit

| Item | Description | Result | Remark |
|------|----------------------|--------|--------|
| 1 | Device Manager Check | Pass | |
| 2 | Keyboard Typing Test | Pass | |
| 3 | Mouse Detect Test | Pass | |

4. Windows 7 32 bit

| Item | Description | Result | Remark |
|------|----------------------|--------|--------|
| 1 | Device Manager Check | Pass | |
| 2 | Keyboard Typing Test | Pass | |
| 3 | Mouse Detect Test | Pass | |

5. Windows 7 64 bit

| Item | Description | Result | Remark |
|------|----------------------|--------|--------|
| 1 | Device Manager Check | Pass | |
| 2 | Keyboard Typing Test | Pass | |
| 3 | Mouse Detect Test | Pass | |

6. Windows Vista 32 bit

| Item | Description | Result | Remark |
|------|----------------------|--------|--------|
| 1 | Device Manager Check | Pass | |
| 2 | Keyboard Typing Test | Pass | |
| 3 | Mouse Detect Test | Pass | |

7. Windows Vista 64 bit

| Item | Description | Result | Remark |
|------|----------------------|--------|--------|
| 1 | Device Manager Check | Pass | |
| 2 | Keyboard Typing Test | Pass | |
| 3 | Mouse Detect Test | Pass | |

8. Windows 2008 32 bit

| Item | Description | Result | Remark |
|------|----------------------|--------|--------|
| 1 | Device Manager Check | Pass | |
| 2 | Keyboard Typing Test | Pass | |
| 3 | Mouse Detect Test | Pass | |

9. Windows 2008 64 bit

| Item | Description | Result | Remark |
|------|----------------------|--------|--------|
| 1 | Device Manager Check | Pass | |
| 2 | Keyboard Typing Test | Pass | |
| 3 | Mouse Detect Test | Pass | |

10. Windows Server 2003 32 bit

| Item | Description | Result | Remark |
|------|----------------------|--------|--------|
| 1 | Device Manager Check | Pass | |
| 2 | Keyboard Typing Test | Pass | |
| 3 | Mouse Detect Test | Pass | |

11. Windows Server 2003 64 bit

| Item | Description | Result | Remark |
|------|----------------------|--------|--------|
| 1 | Device Manager Check | Pass | |
| 2 | Keyboard Typing Test | Pass | |
| 3 | Mouse Detect Test | Pass | |

2.10 LAN Test

Data Transfer Test environment:

-CAT 6 UTP 100M

-8 HR. continuous

1. Windows XP SP2

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

2. Windows XP 64 bit

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

3. Windows 7 32 bit

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

4. Windows 7 64 bit

| Item | Description | Result | Remark |
|------|----------------------|--------|---------|
| 1 | Device Manager Check | Pass | (IPERF) |
| 2 | Data Transfer Test | Pass | (IPERF) |

5. Windows Vista 32 bit

| Item | Description | Result | Remark |
|------|----------------------|--------|---------|
| 1 | Device Manager Check | Pass | (IPERF) |
| 2 | Data Transfer Test | Pass | (IPERF) |

6. Windows Vista 64 bit

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

7. Windows 2008 32 bit

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

8. Windows 2008 64 bit

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

9. Windows Server 2003

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

10. Windows Server 2003 64 bit

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

2.11 Power Supply Test

| Item | TYPE | Description | Result | Remark |
|------|------------|-------------|--------|--------|
| 1 | Snake | PK-350W | Pass | |
| 2 | High Power | 250W | Pass | |
| 3 | Seven team | ST-300WAP | Pass | |

2.12 Os Install

| Item | Description | Result | Remark |
|------|------------------------------------|--------|--------|
| 1 | Windows Server 2003 | Pass | |
| 2 | Windows Server 2003 64 bit | Pass | |
| 3 | Windows XP SP2 | Pass | |
| 4 | Windows XP 64 bit | Pass | |
| 5 | Windows Vista 32 bit | Pass | |
| 6 | Windows Vista 64 bit | Pass | |
| 7 | Windows 7 32 bit | Pass | |
| 8 | Windows 7 64 bit | Pass | |
| 9 | Windows 2008 32 bit | Pass | |
| 10 | Windows 2008 64 bit | Pass | |
| 11 | Ubuntu10.10 | Pass | |
| 12 | Ubuntu11.04 | Pass | |
| 13 | Ubuntu 12.04 (3.8.0-29-generic) | Pass | |

2.13 PCI Express Mini Card

| Motherboard | PCI Express mini card | Remark |
|-------------|-----------------------|---|
| LV-67G | MPX-574D2 | PASS |
| LV-67G | MPX-574D | PASS |
| LV-67G | MPX-3132 | PASS (Diagnostic Summary Screen[Enabled] &PCIE Port7[Gen1]) |
| LV-67G | MPX-643 | PASS |
| LV-67G | MPX-954E | PASS |
| LV-67G | MPX-885 | PASS |
| LV-67G | MPX-1040 | PASS |
| LV-67G | MPX-827 | PASS |
| LV-67G | MPX-7202 | PASS |
| LV-67G | MPX-TOUCH | PASS |

2.14 Mini PCI Card

| Motherboard | PCI Express mini card | Remark |
|--------------------|------------------------------|---------------|
| LV-67G | MP-6816 | PASS |
| LV-67G | MP-6421 | PASS |
| LV-67G | MP-954 | PASS |
| LV-67G | MP-6100 | PASS |
| LV-67G | MP-840 | PASS |
| LV-67G | MP-6010 | PASS |
| LV-67G | MP-541D2 | PASS |
| LV-67G | MP-878D | PASS |
| LV-67G | MP-6802 | PASS |
| LV-67G | MP-323 | PASS |

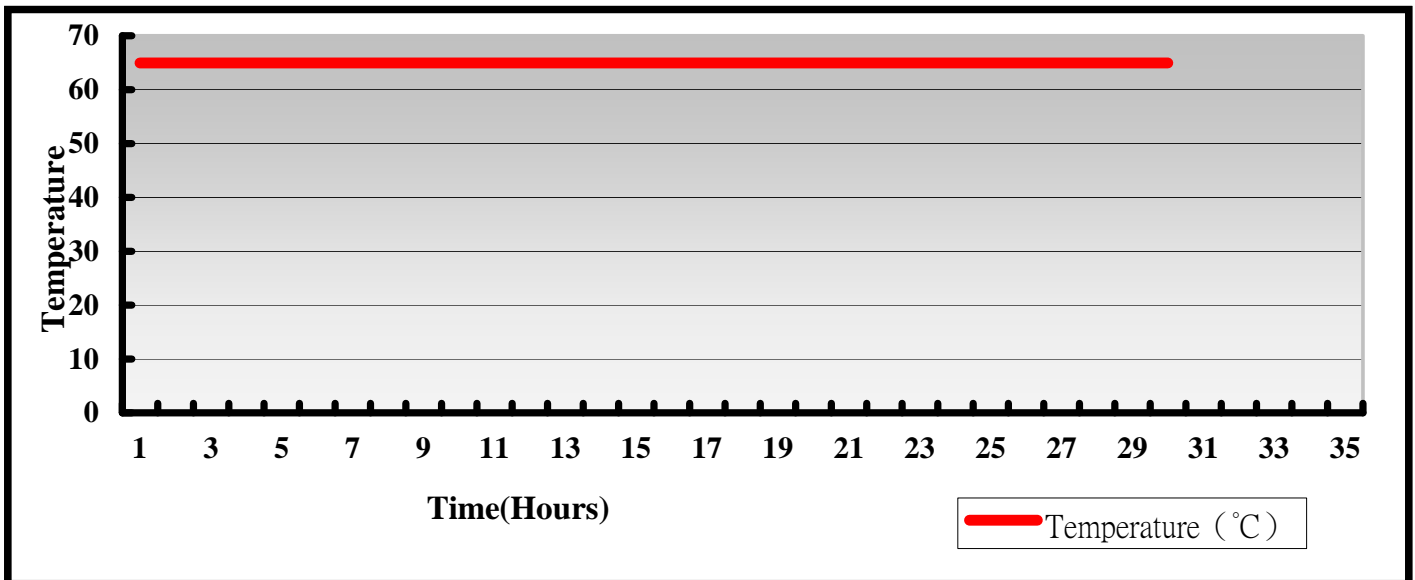
3. Environmental test

3.1 Temperature Test

Hardware Device list:

| | |
|----------------|---|
| System Board | LV - 67G |
| CPU | Intel(R) Core(TM) CPU i5- 2310 2.90GHz |
| Memory | Kingston DDRIII 1600(KHX1600C9D3P1K2)8G |
| HDD | Western Digital 320GB (WD3200BEKT) |
| Operating OS | Windows XP SP2 |
| Test Equipment | THERMOTRON 2800 Programmer/Controller |
| Test Program | 3DMark 2003 + Prime95 |

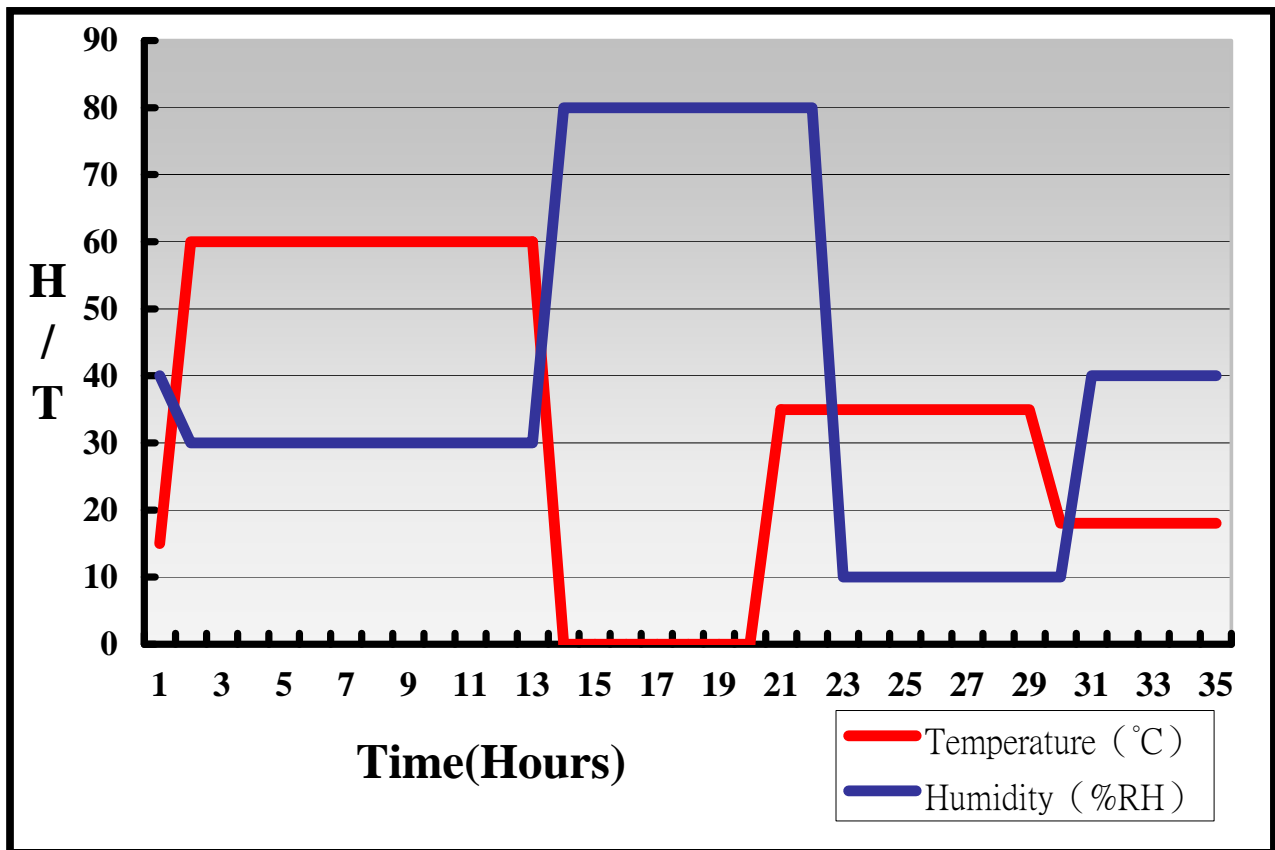
Test Result:



Hardware Device list:

| | |
|-----------------------|--|
| System Board | LV - 67G |
| CPU | Intel(R) Core(TM) CPU i5- 2310 2.90GHz |
| Memory | Kingston DDRIII 1600(KHX1600C9D3P1K2)8G |
| HDD | Western Digital 320GB (WD3200BEKT) |
| Operating OS | Windows XP SP2 |
| Test Equipment | THERMOTRON 2800 Programmer/Controller |
| Test Program | 3DMark 2003 + Prime95 |

Test Result:



Boot up Test:

Hardware Device list:

| | |
|---------------------|--|
| System Board | LV - 67G |
| CPU | Intel(R) Core(TM) CPU i5- 2310 2.90GHz |
| Memory | Kingston DDRIII 1600(KHX1600C9D3P1K2)8G |
| HDD | Western Digital 320GB (WD3200BEKT) |

| Temperature | Result | Remark |
|--------------------|---------------|---------------|
| -40°C | Pass | 50 Times. |
| 65°C | Pass | 50 Times |

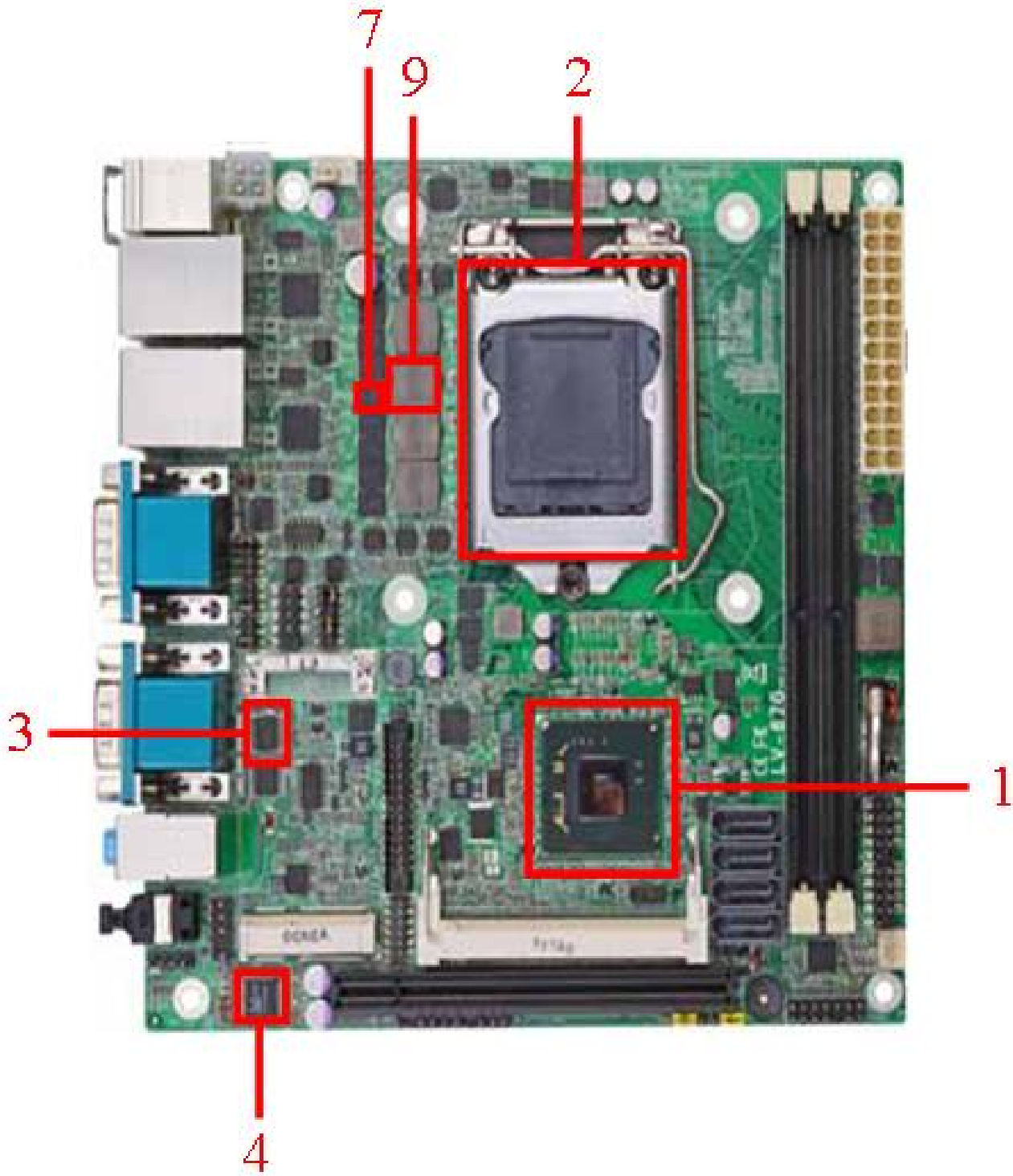
3.2 Thermal measurements at various points on the board

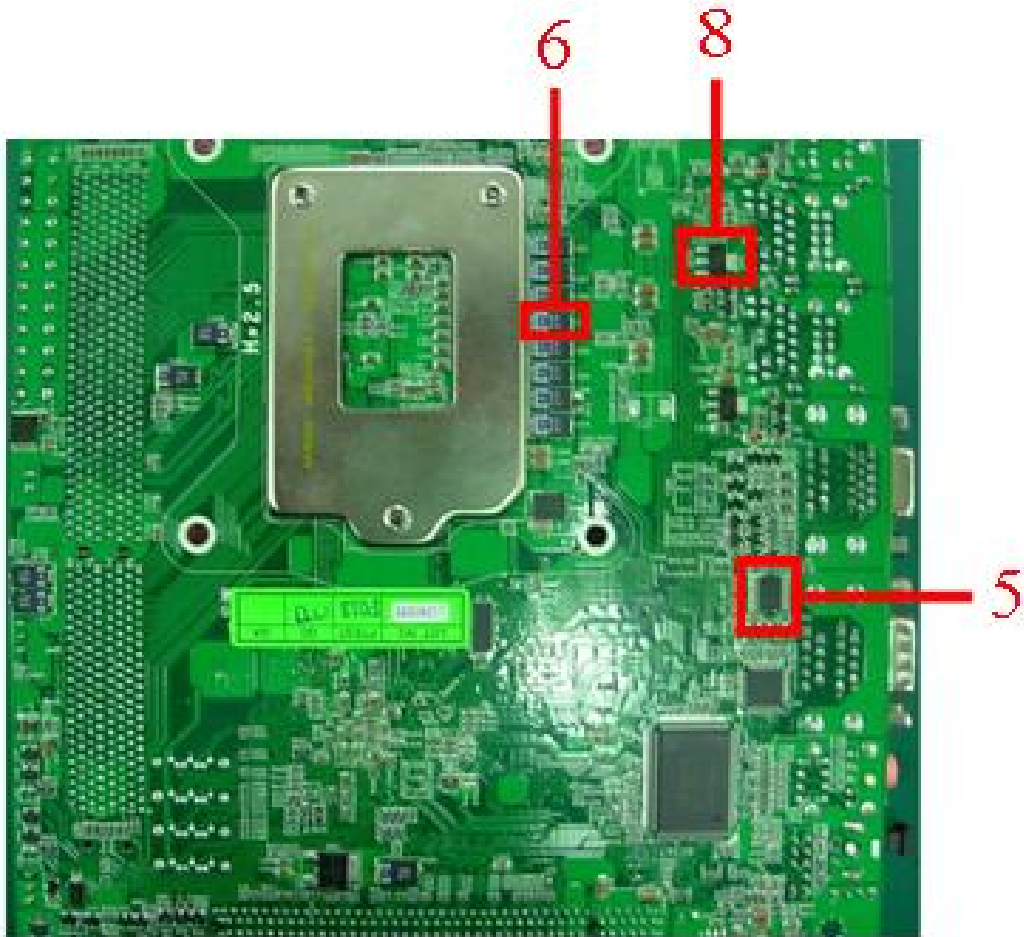
Test Environment:

| | |
|-------------------------|--|
| CPU | Intel(R) Core(TM) CPU i5- 2310 2.90GHz |
| Memory | Kingston DDRIII 1600(KHX1600C9D3P1K2)4G |
| HDD | Western Digital 320GB (WD3200BEKT) |
| Power | SNAKE 350W (PK-350) |
| Operating System | Windows XP SP2 |
| Test Program | 3DMARK2003,Prime95 |

Test Result:

| Item | name | temperature |
|-------------|-------------|--------------------|
| 1 | PCH | 49.8°C |
| 2 | CPU | 41.8°C |
| 3 | U18 | 45.2°C |
| 4 | U26 | 50.8°C |
| 5 | U34 | 49.5°C |
| 6 | C340 | 43.5°C |
| 7 | Q6 | 42.1°C |
| 8 | Q36 | 43.1°C |
| 9 | SP5 | 42.6°C |





4. Reliability Test

4.1 Power Consumption Test

1. Test Environment:

| | |
|--------------------|---|
| Motherboard | LV-67G |
| CPU | Intel(R) Celeron (R) CPU E3-1275 3.4 GHz |
| Memory | ADATA DDR3 1333 2G (AD31333002GOU)x1 |
| HDD | Western Digital 320GB (WD3200BEKT) |

(A) Power Supply: AcBel 510W

| Voltage | MS-DOS Boot up | | Windows XP SP3 3DMARK 2003 + p95v266 | |
|----------------|-------------------|--------------|---|--------------|
| | Current (A) | Power (W) | Current (A) | Power (W) |
| 12V | 4.37 | 52.44 | 8.33 | 99.96 |
| 5V | 1.68 | 8.4 | 2.64 | 13.2 |
| 3.3V | 2.08 | 6.864 | 2.41 | 7.953 |
| 5V+5VSB | 1.82 | 9.1 | 2.71 | 13.55 |

1. a. Test Environment:

The same as above but with PCI-E Graphics card

| | |
|----------------------|-------------------------|
| Graphics card | AX6770 1GBD5-PPV |
|----------------------|-------------------------|

(A) Power Supply: AcBel 510W

| Voltage | MS-DOS Boot up | | Windows XP SP3 BurnIn7.0 + p95v266 | |
|----------------|-------------------|---------------|---------------------------------------|---------------|
| | Current (A) | Power (W) | Current (A) | Power (W) |
| 12V | 8.93 | 107.76 | 9.81 | 117.72 |
| 5V | 1.77 | 8.85 | 2.67 | 13.35 |
| 3.3V | 3.41 | 11.253 | 3.49 | 11.517 |
| 5V+5VSB | 1.84 | 9.2 | 2.68 | 13.4 |

2. Test Environment:

| | |
|--------------------|--|
| Motherboard | LV-67G |
| CPU | Intel(R) Core(TM) i5-2310 CPU 2.90 GHz |
| Memory | Kingston DDR3 1600 4G (KHX1600C9D3P1K2)x2 |
| HDD | Western Digital 320GB (WD3200BEKT) |

(A) Power Supply: snake 350W

| Voltage | MS-DOS Boot up | | Windows 7 - EN BurnIn6.0 + p95v266 | |
|-------------|-------------------|--------------|---------------------------------------|--------------|
| | Current (A) | Power (W) | Current (A) | Power (W) |
| 12V | 3.19 | 38.28 | 5.71 | 68.52 |
| 5V | 1.53 | 7.65 | 2.37 | 11.85 |
| 3.3V | 1.92 | 6.336 | 1.98 | 6.534 |
| 5VSB | 1.066 | 5.33 | 0.015 | 0.075 |

2. a. Test Environment:

The same as above but with PCI-E Graphics card

| | |
|----------------------|------------------------------|
| Graphics card | GIGABYTE 7600GS 256MB |
|----------------------|------------------------------|

(A) Power Supply: snake 350W

| Voltage | MS-DOS Boot up | | Windows 7 – EN BurnIn6.0 + p95v266 | |
|-------------|-------------------|---------------|---------------------------------------|---------------|
| | Current (A) | Power (W) | Current (A) | Power (W) |
| 12V | 4.73 | 52.44 | 7.21 | 86.52 |
| 5V | 1.54 | 7.7 | 1.73 | 8.65 |
| 3.3V | 3.75 | 12.375 | 3.87 | 12.771 |
| 5VSB | 1.137 | 5.685 | 0.035 | 0.175 |

3. Test Environment:

| | |
|--------------------|--|
| Motherboard | LV-67G |
| CPU | Intel(R) Core(TM) i5-2400 CPU 3.10 GHz |
| Memory | Kingston DDR3 1600 4G (KHX1600C9D3P1K2)x2 |
| HDD | Western Digital 320GB (WD3200BEKT) |

(A) Power Supply: snake 350W

| Voltage | MS-DOS Boot up | | Windows 7 - EN BurnIn6.0 + p95v266 | |
|-------------|-------------------|---------------|---------------------------------------|--------------|
| | Current (A) | Power (W) | Current (A) | Power (W) |
| 12V | 3.194 | 38.324 | 5.78 | 69.36 |
| 5V | 1.26 | 6.3 | 2.35 | 11.75 |
| 3.3V | 1.65 | 5.445 | 2.07 | 6.831 |
| 5VSB | 1.217 | 6.085 | 0.055 | 0.275 |

3. a. Test Environment:

The same as above but with PCI-E Graphics card

| | |
|----------------------|------------------------------|
| Graphics card | GIGABYTE 7600GS 256MB |
|----------------------|------------------------------|

(A) Power Supply: snake 350W

| Voltage | MS-DOS Boot up | | Windows 7 - EN BurnIn6.0 + p95v266 | |
|-------------|-------------------|---------------|---------------------------------------|---------------|
| | Current (A) | Power (W) | Current (A) | Power (W) |
| 12V | 5.22 | 62.64 | 7.28 | 87.36 |
| 5V | 1.58 | 7.9 | 2.23 | 11.15 |
| 3.3V | 3.96 | 13.068 | 3.97 | 13.101 |
| 5VSB | 0.596 | 2.98 | 0.014 | 0.07 |

5. Performance Test

5.1 3D MARK(2001、2003、2005)

Windows XP SP2

| WEIGHTED SUITE | Test Environment | Result | Remark |
|-------------------|--|--------|--------|
| 3DMARK2001 Scores | Intel(R) Celeron (R) CPU G540 2.5 GHz Kingston DDR3 1600 4G (KHX1600C9D3P1K2) x2 Western Digital 320GB (WD3200BEKT) | Pass | 13765 |
| 3DMARK2003 Scores | | Pass | 6789 |
| 3DMARK2005 Scores | | Pass | 4928 |

| WEIGHTED SUITE | Test Environment | Result | Remark |
|-------------------|--|--------|--------|
| 3DMARK2001 Scores | Intel(R) Celeron (R) CPU G540 2.5 GHz Kingston DDR3 1333 4G (KVR1333D3N9) x2 Western Digital 320GB (WD3200BEKT) | Pass | 13690 |
| 3DMARK2003 Scores | | Pass | 6777 |
| 3DMARK2005 Scores | | Pass | 4890 |

| WEIGHTED SUITE | Test Environment | Result | Remark |
|--------------------------|---|---------------|---------------|
| 3DMARK2001 Scores | Intel(R) Core(TM) i5-2310 CPU 2.90 GHz Kingston DDR3 1600 4G (KHX1600C9D3P1K2) x2 Western Digital 320GB (WD3200BEKT) | Pass | 17397 |
| 3DMARK2003 Scores | | Pass | 7692 |
| 3DMARK2005 Scores | | Pass | 5597 |

| WEIGHTED SUITE | Test Environment | Result | Remark |
|--------------------------|---|---------------|---------------|
| 3DMARK2001 Scores | Intel(R) Core(TM) i5-2310 CPU 2.90 GHz Kingston DDR3 1333 4G (KVR1333D3N9) x2 Western Digital 320GB (WD3200BEKT) | Pass | 17354 |
| 3DMARK2003 Scores | | Pass | 5177 |
| 3DMARK2005 Scores | | Pass | 5547 |

| WEIGHTED SUITE | Test Environment | Result | Remark |
|--------------------------|---|---------------|---------------|
| 3DMARK2001 Scores | Intel(R) Core(TM) i5-2400 CPU 3.10 GHz Kingston DDR3 1600 4G (KHX1600C9D3P1K2) x2 Western Digital 320GB (WD3200BEKT) | Pass | 17743 |
| 3DMARK2003 Scores | | Pass | 7712 |
| 3DMARK2005 Scores | | Pass | 5559 |

| WEIGHTED SUITE | Test Environment | Result | Remark |
|--------------------------|---|---------------|---------------|
| 3DMARK2001 Scores | Intel(R) Core(TM) i5-2400 CPU 3.10 GHz Kingston DDR3 1333 4G (KVR1333D3N9) x2 Western Digital 320GB (WD3200BEKT) | Pass | 17787 |
| 3DMARK2003 Scores | | Pass | 7695 |
| 3DMARK2005 Scores | | Pass | 5509 |

5.2 3D MARK2006

Windows XP SP2

| Item | WEIGHTED SUITE | Test Environment | Result | Remark |
|------|------------------|--|--------|--------|
| 1 | 3DMARK Source | Intel(R) Celeron (R) CPU G540 2.5 GHz Kingston DDR3 1600 4G (KHX1600C9D3P1K2) x2 Western Digital 320GB (WD3200BEKT) | Pass | 2895 |
| 2 | SM2.0 Source | | Pass | 1049 |
| 3 | HDR/SM3.0 Source | | Pass | 1072 |
| 4 | CPU Source | | Pass | 2423 |

| Item | WEIGHTED SUITE | Test Environment | Result | Remark |
|------|------------------|--|--------|--------|
| 1 | 3DMARK Source | Intel(R) Celeron (R) CPU G540 2.5 GHz Kingston DDR3 1333 4G (KVR1333D3N9) x2 Western Digital 320GB (WD3200BEKT) | Pass | 2219 |
| 2 | SM2.0 Source | | Pass | 762 |
| 3 | HDR/SM3.0 Source | | Pass | 835 |
| 4 | CPU Source | | Pass | 2420 |

| Item | WEIGHTED SUITE | Test Environment | Result | Remark |
|------|------------------|---|--------|--------|
| 1 | 3DMARK Source | Intel(R) Core(TM) i5-2310 CPU 2.90 GHz Kingston DDR3 1600 4G (KHX1600C9D3P1K2) x2 Western Digital 320GB (WD3200BEKT) | Pass | 2628 |
| 2 | SM2.0 Source | | Pass | 884 |
| 3 | HDR/SM3.0 Source | | Pass | 974 |
| 4 | CPU Source | | Pass | 4128 |

| Item | WEIGHTED SUITE | Test Environment | Result | Remark |
|------|------------------|---|--------|--------|
| 1 | 3DMARK Source | Intel(R) Core(TM) i5-2310 CPU 2.90 GHz Kingston DDR3 1333 4G (KVR1333D3N9) x2 Western Digital 320GB (WD3200BEKT) | Pass | 3415 |
| 2 | SM2.0 Source | | Pass | 1170 |
| 3 | HDR/SM3.0 Source | | Pass | 1250 |
| 4 | CPU Source | | Pass | 5067 |

| Item | WEIGHTED SUITE | Test Environment | Result | Remark |
|------|------------------|---|--------|--------|
| 1 | 3DMARK Source | Intel(R) Core(TM) i5-2400 CPU 3.10 GHz Kingston DDR3 1600 4G (KHX1600C9D3P1K2) x2 Western Digital 320GB (WD3200BEKT) | Pass | 2648 |
| 2 | SM2.0 Source | | Pass | 883 |
| 3 | HDR/SM3.0 Source | | Pass | 973 |
| 4 | CPU Source | | Pass | 5350 |

| Item | WEIGHTED SUITE | Test Environment | Result | Remark |
|------|------------------|---|--------|--------|
| 1 | 3DMARK Source | Intel(R) Core(TM) i5-2400 CPU 3.10 GHz Kingston DDR3 1333 4G (KVR1333D3N9) x2 Western Digital 320GB (WD3200BEKT) | Pass | 3435 |
| 2 | SM2.0 Source | | Pass | 1184 |
| 3 | HDR/SM3.0 Source | | Pass | 1248 |
| 4 | CPU Source | | Pass | 5203 |

5.3 PC MARK2002

| Test Environment |
|---|
| Intel(R) Celeron (R) CPU G540 2.5 GHz Kingston DDR3 1600 (KHX1600C9D3P1K2) 4G Western Digital 320GB (WD3200BEKT) |

Windows XP SP2

| Item | WEIGHTED SUITE | Result | Remark |
|------|--------------------|--------|--------|
| 1 | CPU test Source | Pass | 10020 |
| 2 | Memory test Source | Pass | 33337 |
| 3 | HDD test Source | Pass | 1907 |

| Test Environment |
|---|
| Intel(R) Celeron (R) CPU G540 2.5 GHz Kingston DDR3 1333 (KVR1333D3N9) 4G Western Digital 320GB (WD3200BEKT) |

Windows XP SP2

| Item | WEIGHTED SUITE | Result | Remark |
|------|--------------------|--------|--------|
| 1 | CPU test Source | Pass | 10008 |
| 2 | Memory test Source | Pass | 33163 |
| 3 | HDD test Source | Pass | 1913 |

| |
|--|
| Test Environment |
| Intel(R) Core(TM) CPU i5-2310 2.90 GHz Kingston DDR3 1600 (KHX1600C9D3P1K2) 4G Western Digital 320GB (WD3200BEKT) |

Windows XP SP2

| Item | WEIGHTED SUITE | Result | Remark |
|-------------|---------------------------|---------------|---------------|
| 1 | CPU test Source | Pass | 12775 |
| 2 | Memory test Source | Pass | 50955 |
| 3 | HDD test Source | Pass | 1950 |

| |
|--|
| Test Environment |
| Intel(R) Core(TM) CPU i5-2310 2.90 GHz Kingston DDR3 1333 (KVR1333D3N9) 4G Western Digital 320GB (WD3200BEKT) |

Windows XP SP2

| Item | WEIGHTED SUITE | Result | Remark |
|-------------|---------------------------|---------------|---------------|
| 1 | CPU test Source | Pass | 12781 |
| 2 | Memory test Source | Pass | 50707 |
| 3 | HDD test Source | Pass | 1924 |

| |
|--|
| Test Environment |
| Intel(R) Core(TM) CPU i5-2400 3.10 GHz Kingston DDR3 1600 (KHX1600C9D3P1K2) 4G Western Digital 320GB (WD3200BEKT) |

Windows XP SP2

| Item | WEIGHTED SUITE | Result | Remark |
|-------------|---------------------------|---------------|---------------|
| 1 | CPU test Source | Pass | 13584 |
| 2 | Memory test Source | Pass | 52035 |
| 3 | HDD test Source | Pass | 1928 |

| |
|--|
| Test Environment |
| Intel(R) Core(TM) CPU i5-2400 3.10 GHz Kingston DDR3 1333 (KVR1333D3N9) 4G Western Digital 320GB (WD3200BEKT) |

Windows XP SP2

| Item | WEIGHTED SUITE | Result | Remark |
|-------------|---------------------------|---------------|---------------|
| 1 | CPU test Source | Pass | 13531 |
| 2 | Memory test Source | Pass | 53945 |
| 3 | HDD test Source | Pass | 1915 |

5.4 PC MARK2004

| |
|---|
| Test Environment |
| Intel(R) Celeron (R) CPU G540 2.5 GHz Kingston DDR3 1600 (KHX1600C9D3P1K2) 4G Western Digital 320GB (WD3200BEKT) |

Windows XP SP2

| Item | WEIGHTED SUITE | Result | Remark |
|-------------|-----------------------|---------------|---------------|
| 1 | PC Mark Source | Pass | N/A |
| 2 | CPU test Source | Pass | N/A |
| 3 | Memory test Source | Pass | 9319 |
| 4 | Graphic test Source | Pass | 3208 |
| 5 | HDD test Source | Pass | 5908 |

| |
|---|
| Test Environment |
| Intel(R) Celeron (R) CPU G540 2.5 GHz Kingston DDR3 1333 (KVR1333D3N9) 4G Western Digital 320GB (WD3200BEKT) |

Windows XP SP2

| Item | WEIGHTED SUITE | Result | Remark |
|-------------|-----------------------|---------------|---------------|
| 1 | PC Mark Source | Pass | N/A |
| 2 | CPU test Source | Pass | N/A |
| 3 | Memory test Source | Pass | 9216 |
| 4 | Graphic test Source | Pass | 3251 |
| 5 | HDD test Source | Pass | 5902 |

| |
|--|
| Test Environment |
| Intel(R) Core(TM) CPU i5-2310 2.90 GHz Kingston DDR3 1600 (KHX1600C9D3P1K2) 4G Western Digital 320GB (WD3200BEKT) |

Windows XP SP2

| Item | WEIGHTED SUITE | Result | Remark |
|-------------|----------------------------|---------------|---------------|
| 1 | PCMark Source | Pass | N/A |
| 2 | CPU test Source | Pass | N/A |
| 3 | Memory test Source | Pass | 13972 |
| 4 | Graphic test Source | Pass | 3737 |
| 5 | HDD test Source | Pass | 5858 |

| |
|--|
| Test Environment |
| Intel(R) Core(TM) CPU i5-2310 2.90 GHz Kingston DDR3 1333 (KVR1333D3N9) 4G Western Digital 320GB (WD3200BEKT) |

Windows XP SP2

| Item | WEIGHTED SUITE | Result | Remark |
|-------------|----------------------------|---------------|---------------|
| 1 | PC Mark Source | Pass | N/A |
| 2 | CPU test Source | Pass | N/A |
| 3 | Memory test Source | Pass | 13969 |
| 4 | Graphic test Source | Pass | 3809 |
| 5 | HDD test Source | Pass | 5900 |

| |
|--|
| Test Environment |
| Intel(R) Core(TM) CPU i5-2400 3.10 GHz Kingston DDR3 1600 (KHX1600C9D3P1K2) 4G Western Digital 320GB (WD3200BEKT) |

Windows XP SP2

| Item | WEIGHTED SUITE | Result | Remark |
|-------------|----------------------------|---------------|---------------|
| 1 | PC Mark Source | Pass | N/A |
| 2 | CPU test Source | Pass | N/A |
| 3 | Memory test Source | Pass | 14715 |
| 4 | Graphic test Source | Pass | 3766 |
| 5 | HDD test Source | Pass | 5833 |

| |
|--|
| Test Environment |
| Intel(R) Core(TM) CPU i5-2400 3.10 GHz Kingston DDR3 1333 (KVR1333D3N9) 4G Western Digital 320GB (WD3200BEKT) |

Windows XP SP2

| Item | WEIGHTED SUITE | Result | Remark |
|-------------|----------------------------|---------------|---------------|
| 1 | PC Mark Source | Pass | N/A |
| 2 | CPU test Source | Pass | N/A |
| 3 | Memory test Source | Pass | 14632 |
| 4 | Graphic test Source | Pass | 3824 |
| 5 | HDD test Source | Pass | 5844 |

5.5 PC MARK2005

| |
|---|
| Test Environment |
| Intel(R) Celeron (R) CPU G540 2.5 GHz Kingston DDR3 1600 (KHX1600C9D3P1K2) 4G Western Digital 320GB (WD3200BEKT) |

Windows XP SP2

| Item | WEIGHTED SUITE | Result | Remark |
|-------------|----------------------------|---------------|---------------|
| 1 | System test Source | Pass | 5383 |
| 2 | CPU test Source | Pass | 7008 |
| 3 | Memory test Source | Pass | 8262 |
| 4 | Graphic test Source | Pass | 2747 |
| 5 | HDD test Source | Pass | 5949 |

| |
|---|
| Test Environment |
| Intel(R) Celeron (R) CPU G540 2.5 GHz Kingston DDR3 1333 (KVR1333D3N9) 4G Western Digital 320GB (WD3200BEKT) |

Windows XP SP2

| Item | WEIGHTED SUITE | Result | Remark |
|-------------|----------------------------|---------------|---------------|
| 1 | System test Source | Pass | 5415 |
| 2 | CPU test Source | Pass | 7009 |
| 3 | Memory test Source | Pass | 8160 |
| 4 | Graphic test Source | Pass | 2668 |
| 5 | HDD test Source | Pass | 5949 |

| |
|--|
| Test Environment |
| Intel(R) Core(TM) CPU i5-2310 2.90 GHz Kingston DDR3 1600 (KHX1600C9D3P1K2) 4G Western Digital 320GB (WD3200BEKT) |

Windows XP SP2

| Item | WEIGHTED SUITE | Result | Remark |
|-------------|----------------------------|---------------|---------------|
| 1 | System test Source | Pass | 6610 |
| 2 | CPU test Source | Pass | 10861 |
| 3 | Memory test Source | Pass | 10614 |
| 4 | Graphic test Source | Pass | 2984 |
| 5 | HDD test Source | Pass | 5962 |

| |
|--|
| Test Environment |
| Intel(R) Core(TM) CPU i5-2310 2.90 GHz Kingston DDR3 1333 (KVR1333D3N9) 4G Western Digital 320GB (WD3200BEKT) |

Windows XP SP2

| Item | WEIGHTED SUITE | Result | Remark |
|-------------|----------------------------|---------------|---------------|
| 1 | System test Source | Pass | 6573 |
| 2 | CPU test Source | Pass | 10971 |
| 3 | Memory test Source | Pass | 10514 |
| 4 | Graphic test Source | Pass | 2906 |
| 5 | HDD test Source | Pass | 5972 |

| |
|--|
| Test Environment |
| Intel(R) Core(TM) CPU i5-2400 3.10 GHz Kingston DDR3 1600 (KHX1600C9D3P1K2) 4G Western Digital 320GB (WD3200BEKT) |

Windows XP SP2

| Item | WEIGHTED SUITE | Result | Remark |
|-------------|----------------------------|---------------|---------------|
| 1 | System test Source | Pass | 6677 |
| 2 | CPU test Source | Pass | 10911 |
| 3 | Memory test Source | Pass | 11134 |
| 4 | Graphic test Source | Pass | 3034 |
| 5 | HDD test Source | Pass | 5977 |

| |
|--|
| Test Environment |
| Intel(R) Core(TM) CPU i5-2400 3.10 GHz Kingston DDR3 1333 (KVR1333D3N9) 4G Western Digital 320GB (WD3200BEKT) |

Windows XP SP2

| Item | WEIGHTED SUITE | Result | Remark |
|-------------|----------------------------|---------------|---------------|
| 1 | System test Source | Pass | 6851 |
| 2 | CPU test Source | Pass | 11492 |
| 3 | Memory test Source | Pass | 11030 |
| 4 | Graphic test Source | Pass | 3041 |
| 5 | HDD test Source | Pass | 5930 |

5.6 AQUAMARK3

| |
|---|
| Test Environment |
| Intel(R) Celeron (R) CPU G540 2.5 GHz Kingston DDR3 1600 (KHX1600C9D3P1K2) 4G Western Digital 320GB (WD3200BEKT) |

Windows XP SP2

| Item | WEIGHTED SUITE | Result | Remark |
|-------------|---------------------------|---------------|---------------|
| 1 | GFX | Pass | 4233 |
| 2 | CPU | Pass | 15235 |
| 3 | AquaMark3 TRISCORE | Pass | 37163 |

| |
|--|
| Test Environment |
| Intel(R) Core(TM) CPU i5-2310 2.90 GHz Kingston DDR3 1600 (KHX1600C9D3P1K2) 4G Western Digital 320GB (WD3200BEKT) |

Windows XP SP2

| Item | WEIGHTED SUITE | Result | Remark |
|-------------|---------------------------|---------------|---------------|
| 1 | GFX | Pass | 5130 |
| 2 | CPU | Pass | 20415 |
| 3 | AquaMark3 TRISCORE | Pass | 45581 |

5.7 CINEBENCH

| |
|---|
| Test Environment |
| Intel(R) Celeron (R) CPU G540 2.5 GHz Kingston DDR3 1600 (KHX1600C9D3P1K2) 4G Western Digital 320GB (WD3200BEKT) |

Windows XP SP2

| Item | WEIGHTED SUITE | Result | Remark |
|------|----------------|--------|----------|
| 1 | GFX | Pass | 1.48 fps |
| 2 | CPU | Pass | 1.78 pts |

| |
|--|
| Test Environment |
| Intel(R) Core(TM) CPU i5-2310 2.90 GHz Kingston DDR3 1600 (KHX1600C9D3P1K2) 4G Western Digital 320GB (WD3200BEKT) |

Windows XP SP2

| Item | WEIGHTED SUITE | Result | Remark |
|------|----------------|--------|----------|
| 1 | OpenGL | Pass | 1.92 fps |
| 2 | CPU | Pass | 4.06 pts |

Test Environment

**Intel(R) Core(TM) CPU i5-2400 3.10 GHz
Kingston DDR3 1600 (KHX1600C9D3P1K2) 4G
Western Digital 320GB (WD3200BEKT)**

Windows XP SP2

| Item | WEIGHTED SUITE | Result | Remark |
|-------------|-----------------------|---------------|---------------|
| 1 | GFX | Pass | 2.01 fps |
| 2 | CPU | Pass | 3.67 pts |

5.8 ZD CPUMARK

| |
|---|
| Test Environment |
| Intel(R) Celeron (R) CPU G540 2.5 GHz Kingston DDR3 1600 (KHX1600C9D3P1K2) 4G Western Digital 320GB (WD3200BEKT) |

Windows XP SP2

| Item | WEIGHTED SUITE | Result | Remark |
|------|----------------|--------|--------|
| 1 | SCORE | Pass | 383 |

| |
|--|
| Test Environment |
| Intel(R) Core(TM) CPU i5-2310 2.90 GHz Kingston DDR3 1600 (KHX1600C9D3P1K2) 4G Western Digital 320GB (WD3200BEKT) |

Windows XP SP2

| Item | WEIGHTED SUITE | Result | Remark |
|------|----------------|--------|--------|
| 1 | SCORE | Pass | 488 |

| |
|--|
| Test Environment |
| Intel(R) Core(TM) CPU i5-2400 3.10 GHz Kingston DDR3 1600 (KHX1600C9D3P1K2) 4G Western Digital 320GB (WD3200BEKT) |

Windows XP SP2

| Item | WEIGHTED SUITE | Result | Remark |
|------|----------------|--------|--------|
| 1 | SCORE | Pass | 520 |

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 |
|-------------------------------|-----------|----------|------------|-------------|-------------|
| Western Digital WD3200BEKT | SATA | 320GB | 65.5MB/sec | 150.4MB/sec | 14.5ms |
| Western Digital WD10EARS | SATA | 1.0TB | 77.1MB/sec | 94.1MB/sec | 15.8ms |
| Western Digital WD10EALX | SATA | 1.0TB | 99.6MB/sec | 110.3MB/sec | 13.1ms |

5.9.2 CD-ROM

Test environment:

OS Windows XP professional SP2

Program (NERO)

| CD-ROM MODEL | INTERFACE | Average speed | Full READ | Burst Rate | CD |
|-----------------------|-----------|---------------|-----------|------------|-------------|
| PIONEER DVR-S19LBK | SATA | 30.82x | 156ms | 63 MB/s | 52X CD-R |
| LG GH20NS15 | SATA | 36.40x | 172ms | 38 MB/s | 52X CD-R |
| LITEON DVD ETAU108 | USB | 18.42x | 255ms | 16 MB/s | 52X CD-R |