

ETX-LN-A11

Intel Luna Pier platform ETX 3.0 CPU Module

P5 Verification Test Report

| Summary | <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> Pass with Deviation (Comment: _____) | | | |
|-----------------|--|-------|-------|-------------|
| | Test Results Category | | | |
| | Critical | Major | Minor | Enhancement |
| Defect Found | 0 | 0 | 0 | 0 |
| Defect Unsolved | 0 | 0 | 0 | 0 |

Issue date

2012/10/16

Approval

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Test Engineer

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Version Released Records

| Date | Version | Change History | Note |
|------------|-----------|--|------|
| 2010/04/21 | P3-1001 | 1. Re-composing test Items | |
| 2010/06/01 | P2P3-1001 | 1. New Test Report | |
| 2010/06/21 | P2P3-1002 | 1. Add BIOS -> SPI ROM Setting (South Bridge - GPIO) | |
| 2010/12/02 | P2P2-1003 | 1. New Test Report | |
| 2011/02/23 | P2P3-1101 | 1. Re-composing test Items | |
| 2011/03/04 | P2P3-1102 | 1. Add Specification Validation | |
| 2012/0529 | P2P3-1201 | 1. Add Summary Table of DTS | |

Note :

For all test items in this report, 3 results have been defined and described as follow:

- Pass: Functionality work perfectly
Fail: Functionality failed and must be resolved in the next version
N/A: Functionality Not Applicable or Not Available

This test report will be updated when re-test completed in next version of the product.

Specification Validation

Main Specification

| Item | Specification | Result | | | Note |
|----------------------|--|-------------------------------------|--------------------------|--------------------------|------|
| | | Pass | Fail | N/A | |
| Form Factor | ETX 3.0 114mm x 95mm (4.5" x 3.75") | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Processor | Onboard Intel Atom D525/N455 Processors D525: Dual Core Atom 1.86GHz N455: Single Core Atom 1.6GHz | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| System Memory | DDR3 SODIMM x 1 Supports non-ECC DDR3 667/800, Max. 4GB (D525 800/Max.4GB, N455 667/Max.2GB) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Chipset | Intel ICH8M | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Ethernet | Realtek RTL8105E-VL-CG, 10/100Mbps Ethernet | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| VGA/LCD Controller | Intel D525/N455 processor integrated CRT: 2048 X 1536 @ 60Hz (D525); 1400 X 1050 @ 60Hz (N455) LCD: up to 1366 x768 or 1280 x 800 @60Hz Integrated hardware MPEG2 decoder Directx* 9 compliant Pixel Shader* v2.0 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Digital Display | Up to Single channel 24bit LVDS | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Shared Memory | Shared system memory up to 256MB/ DVMT 4.0 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Audio | Realtek HD Audio ALC662-GR | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| I/O Chip | Winbond W83627DHG-P | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Watchdog timer | Winbond W83627DHG-P | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| H/W Monitor | Winbond W83627DHG-P | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Expansion Interface | 4 x 32-bit PCI 1 x ISA bus (through PCI to ISA bridge ITE IT8888) 1 x SMBus | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Wake on LAN | Yes | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| IDE Interface | PATA *1 via Intel ICH8M | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| SATA Interface | SATA port x 2 via Intel ICH8M | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Parallel Port | 1x Parallel port via Winbond W83627DHG-P | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Serial Port | Serial Port x2 via Winbond W83627DHG-P | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Universal Serial Bus | USB 2.0 x 4 via Intel ICH8M | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

O.S. Support

| Item | Specification | Result | | | Note |
|--------------------|---|-------------------------------------|--------------------------|-------------------------------------|------|
| | | Pass | Fail | N/A | |
| Microsoft Embedded | Windows XP Embedded,WES2009 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| | WES7 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Microsoft Windows | Windows XP Pro, 32bit / 64bit | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| | Windows 7, 32bit / 64bit | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Linux | Linux kernel 2.6.x or above for Ubuntu, Fedora, Red Hat | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

Environmental Specifications

| Item | Specification |
|-----------------------|-------------------------|
| Operating temperature | 32~140 ℉ (0~60 ℃) |
| EMC | CE & FCC part15 Class A |

Note: Please refer to Environment Test Report for detail information

Platform Information

| Item | Device Information | Test Item |
|---|--|-------------------|
| PCB Model / Version | ETX-LN A1.1 | 1,2,3,4,5,6,7,8,9 |
| CPU Board | ETX-LN A1.1 | 1,2,3,4,5,6,7,8,9 |
| Carrier Board | ECB-902M A1.0 | 1,2,3,4,5,6,7,8,9 |
| BIOS / Version | ETX-LN R2.0(ETLNAM20) (09/24/2012) | 1,2,3,4,5,6,7,8,9 |
| CPU Type | Intel® Atom™ CPU D525 @ 1.8GHz Intel® Atom™ CPU N455 @ 1.66GHz | 1,2,3,4,5,6,7,8,9 |
| Memory Type | Transcend DDR3 1333 4GB Hynix H5TQ2G83CFR Transcend DDR3 1333 2GB CL9 Hynix H5TQ2G83CFR | 1,2,3,4,5,6,7,8,9 |
| SATA HDD | WD WD6402AAEX 3.5" 640G | 1,2,3,4,5,6,7,8,9 |
| SATA DVD-ROM | LG GH20 NS15 Multi DVD Rewriter | 1,2,3,4,5,6,7,8,9 |
| USB DVD-ROM | Aopen EDR8865U Pioneer DVR-XD 10T ASUS SDRW-08D2S-U | 1,2,3,4,5,6,7,8,9 |
| LCD Monitor | LG E2260 22" 1920*1080 monitor | 1,2,3,4,5,6,7,8,9 |
| LVDS | AUO T260XW02 / 26" / 1366x768 / 24bit | 1,2,3,4,5,6,7,8,9 |
| Compact Flash | Transcend Industrial 4GB | 1,2,3,4,5,6,7,8,9 |
| IDE HDD | WD WD800BB-22JHCO 3.5" 80GB | 1,2,3,4,5,6,7,8,9 |
| IDE DVD ROM | ASUS DVD-E818A3/B+W/G/AS | 1,2,3,4,5,6,7,8,9 |
| Daughter Board | N/A | N/A |
| Expansion Board | N/A | N/A |
| | N/A | N/A |
| Operating System | <input checked="" type="checkbox"/> English Fedora Core 15– Kernel 2.6.38.6-26.rc1.fc15.i686 | 7-1 |
| | <input checked="" type="checkbox"/> Windows 7 Ultimate SP1 English Version 32/64 Bit | 7-2 |
| | <input checked="" type="checkbox"/> Windows XP Professional English SP3 32/64 Bit | 7-3 |
| Power Supply | ATX power : Zippy HG2-6400P 400W | 1,2,3,4,5,6,7,8,9 |
| | ATX power : Channel Well DSA400P-C 400W | 1,2,3,4,5,6,7,8,9 |
| Chipset Information with 7 Ultimate SP1 English Version 32 Bit Driver Version | | |
| Chipset Software | Intel Chipset Device Software 9.1.1.1009 (03/09/2009) | |
| North Bridge | Onboard Intel Atom D525/N455 Processors | |
| South Bridge | Intel ICH8M | |
| Super IO Chipset | Winbond W83627DHG-P | |
| VGA Chipset | Intel Graphics Media Accelerator 3150 8.14.10.2230(10/24/2010) | |
| Audio Chipset | Realtek High Definition Audio 6.0.1.6662 (06/19/2012) | |
| Ethernet Chipset | Realtek PCIe FE Family Controller 7.61.612.2012(06/12/2012) | |

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1. Hardware Test

1.1. CPU Compatibility Test

| CPU Information | Result | | | Note |
|--|-------------------------------------|--------------------------|--------------------------|-------------------------|
| | Pass | Fail | N/A | |
| Intel® Atom™ processor D525 (1M Cache, 1.80 GHz) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Win7 32, XP32/64, Linux |
| Intel® Atom™ processor N455 (512K Cache, 1.66 GHz) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | XP 32/64, Win7 64 |

1.2. Memory Compatibility Test

| Memory Information | MEM V4.20 | | | CPU | Test Program |
|---|-------------------------------------|--------------------------|--------------------------|-----------|--------------|
| | Pass | Fail | N/A | | |
| Apacer DDR3-1333 4GB Hynix H5TQ2G83BFR | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | D525 | Memtest 4.2 |
| Transcend DDR3-1333 1GB SEC BCH9-K4B1G0846G | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | D525/N455 | Memtest 4.2 |
| Transcend DDR3-1066 2GB CL7 SEC BCH9-K4B1G0846G | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | N455 | Memtest 4.2 |
| Transcend DDR3-1333 2GB SEC HCH9-K4B2G0846D | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | D525/N455 | Memtest 4.2 |
| Transcend DDR3-1333 4GB Hynix H5TQ2G83CFR | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | D525 | Memtest 4.2 |
| Innodisk DDR3 1333 SODIMM 1GB(M3SN-1GHFCC09-D)-Hynix H5TQ1G83DFR | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | D525/N455 | Memtest 4.2 |
| Innodisk DDR3 1333 SODIMM 2GB(M3SN-2GHJCC09-B)-Hynix H5TQ2G83BFR | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | D525/N455 | Memtest 4.2 |
| InnoDisk DDR3 1333/4GB M3SN-4GHJDC09-B (Hynix H5TQ2G83BFR) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | D525 | Memtest 4.2 |
| DSL DDR3 1066 4GB CL7 EPLIDA J2108BCSE-DJ-F | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | D525 | Memtest 4.2 |

1.3. SATA Compatibility Test

1.3.1 Onboard SATA Test

| SATA Device Information | | Result | | | Note |
|-------------------------|---------------------------------|-------------------------------------|--------------------------|--------------------------|------|
| | | Pass | Fail | N/A | |
| HDD | Seagate ST9120823AS 120G 2.5" | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| HDD | Fujitsu MHZ2080BH G2 80G 2.5" | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| DVD | LG GH20 NS15 Multi DVD Rewriter | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

1.3.2 Onboard SATA (AHCI) Test

| SATA AHCI Test | | Result | | | Note |
|-----------------------------|--|-------------------------------------|--------------------------|--------------------------|------|
| | | Pass | Fail | N/A | |
| Toshiba MK1676GSX 2.5" 160G | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| WD WD6402AAEX 3.5" 640G | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

1.4. IDE Compatibility Test

| IDE Device Information | | Result | | | Note |
|------------------------|---------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------|
| | | Pass | Fail | N/A | |
| DVD ROM | ASUS DVD-E818A3/B+W/G/AS | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Slot at 1/2/3/4/OS |
| CD ROM | Lite-onit LTN-527T CD-ROM Drive | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| HDD | WD WD800BB-22JHCO 3.5" 80GB | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Linux Fedora 15 |
| HDD | Seagate ST340014A 3.5" 40G | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Win7_64 |
| HDD | Hitachi HDS728080PLAT20 82.3GB | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Win7_32 |

1.5. Compact Flash Compatibility Test

| Compact Flash Information | | Result | | | Note |
|--------------------------------------|-------------|-------------------------------------|--------------------------|--------------------------|--|
| | | Pass | Fail | N/A | |
| Innodisk ICF8000 4GB CFD (UDMA) | Fixed mode | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | BIOS setting compatible mode · UDMA/66 or higher and to install WinXP_32 |
| Transcend Industrial Ultra 4GB(UDMA) | Fixed mode | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | BIOS setting Enhanced · UDMA33 and to install WinXP_64 |
| Transcend 8GB 133x | Fixed mode | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | R/W test under Win7 |
| Transcend 4GB 133x | Fixed mode | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | R/W test under Win7 |
| SanDisk ultra II 2.0GB | Remove mode | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | R/W test fail under Win7 XP test ok Win7 need to set master |
| Transcend 1GB 80x | Remove mode | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | R/W test fail under Win7 XP test ok Win7 need to set master |

2. Basic Function Test

2.1. Video Function Test

2.1.1. Single Output Function Test

| Hardware Information with Windows 7 Ultimate English Version 32 Bit Driver Version | | | | | | | | | | |
|--|--|--------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|-------------------------------|
| CPU | Intel® Atom™ CPU D525 @ 1.8GHz | | | | | | | | | |
| Memory | Transcend DDR3 1333 4GB Hynix H5TQ2G83CFR | | | | | | | | | |
| SATA HDD | WDC WD6402AAEX-00Z3A0 3.5" 640GB | | | | | | | | | |
| VGA | LG E2260 22" LCD monitor | | | | | | | | | |
| DVI | N/A | | | | | | | | | |
| LVDS | Toshiba /12.1"/1280 x 768 x 18bit (16:9) | | | | | | | | | |
| Color Quality | <input checked="" type="checkbox"/> 16bit <input type="checkbox"/> 24bit <input checked="" type="checkbox"/> 32bit | | | | | | | | | |
| Resolution | VGA | | | DVI | | | LVDS | | | Note |
| | Pass | Fail | N/A | Pass | Fail | N/A | Pass | Fail | N/A | |
| 640X480 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 800X600 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1024X768 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1152X864 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1280X600 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1280X720 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1280X768 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1280X960 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1280X1024 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1366/768 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1400X1050 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1600X900 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1600X1200 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1680X1050 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1792X1344 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1856X1392 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1920X1080 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1920X1200 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 1920X1440 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 2048X1536 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Rotation | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Rotation (0 / 90 /180 /270°) |

Note: Pay attention to Full Screen under POST screen and Text Mode.

2.1.2. Dual Output Function Test

| Selection | Output | Result | | | Note |
|--------------------|------------|-------------------------------------|--------------------------|-------------------------------------|------|
| | | Pass | Fail | N/A | |
| Dual Display Clone | VGA + DVI | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Dual Display Twin | | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Extended Desktop | | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Dual Display Clone | VGA + LVDS | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Dual Display Twin | | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Extended Desktop | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Dual Display Clone | DVI + LVDS | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Dual Display Twin | | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Extended Desktop | | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

2.1.3. Video Resolution Test

Test points:

1. Power on without inserting any VGA connector until system reaches Windows desktop
2. Plug VGA connector into test machine while the system is booting to Windows; then check VGA driver and display.
3. Check brightness level and screen behavior of the monitor connected VGA output. The phenomena, normal "Ghost Image" or "Flicker", should be watched carefully.

| | Result | | | Note |
|--------------------|-------------------------------------|--------------------------|--------------------------|------|
| | Pass | Fail | N/A | |
| In Windows Desktop | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

2.1.4. Video Resolution Test

| LVDS Model | | Result | | | Note |
|--|---|-------------------------------------|-------------------------------------|-------------------------------------|------|
| | | Pass | Fail | N/A | |
| LVDS | 1_AUO G065VN01 V.0 / 6.5" / 640x480 / 18bit (4:3) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| | 2_AUO G065VN01 V.0 / 6.5" / 640x480 / 24bit (4:3) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| | 3_Data Image 7" / 800*480 / 18bit (16:9) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| | 4_AU G084SN05 V.3 / 8.4" / 800*600 / 18bit (4:3) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| | 5_AU B104SN02 V.0 / 10.4" / 800*600 / 18bit (4:3) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| | 6_AUO G084SN05 v7 / 8.4" / 800*600 / 24bit (4:3) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| | 7_AU G150XG01 V.0 / 15" / 1024*768 / 18bit (4:3) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| | 8_AUO LED backlight G121XN01-V0 1024*768 18bit | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| | 8_AU M150XN07 V.2 / 15" / 1024x768 / 24bit (4 :3) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| | 9_Toshiba /12.1"/1280 x 768 x 18bit (16:9) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| | 10_AU M170EG01 V.D/ 17" / 1280*1024 / 48bit (4 :3) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| | 11_AU M170XW01 V.1 / 17" / 1280x768 / 24bit (16 :9) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| | 12_AUO T260XW02 / 26" / 1366x768 / 24bit | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| | 13_AU M201UN02 V.5 / 20.1" / 1600x1200x48bit | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| | 14_AUO T370HW01 / 37" / 1920x1080 / 48bit | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 15_AUO M190PW01 V0 / 19"/1440X900/48 bit | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | |







2.2. Audio Function Test

[] No Support

| Function Test | Result | | | Note |
|---------------------------------------|-------------------------------------|--------------------------|-------------------------------------|-------------------------------------|
| | Pass | Fail | N/A | |
| L (Left) Channel | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| R (Right) Channel | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| CD_In | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Line In | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| MICROPHONE | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Line in record | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Microphone record | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 6-channel mode for 5.1 speaker output | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 8-channel mode for 7.1 speaker output | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| S/P DIF function Test | Input | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | Output | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

2.3. LAN Function Test

[] No Support

| Connect two computers via different speed LAN HUB by using "Ping" instruction (1000 times) | | | | | | | | | | |
|--|---|---|-------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|----------------------|--|
| 1000MBps LAN HUB | D-Link DGS-1008D | | | | | | | | | |
| 100MBps LAN HUB | Accton CheetahSwitch Desktop-3005 | | | | | | | | | |
| 10MBps LAN HUB | SVEC FD916H | | | | | | | | | |
| OnBoard LAN1 | Realtek PCIe GBE Family Controller | | | | | | MAC Address | 00-07-32-00-00-07 | | |
| OnBoard LAN2 | Realtek PCIe GBE Family Controller | | | | | | MAC Address | 00-07-32-00-00-08 | | |
| LAN Speed | Link / Speed LED | Active LED | LAN 1 | | | LAN 2 | | | Note | |
| | | | Pass | Fail | N/A | Pass | Fail | N/A | | |
| 1000MBps |  |  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | |
| 100MBps |  |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | |
| 10MBps |  |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | |
| Wake On LAN | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | S1,S3,S4,S5, DOS off | |
| Boot ROM to Novell 4.11 [RPL] | | | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | |
| LAN Boot (PXE) | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | |
| Internet Browser (DHCP Server) | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | |

2.3.2. Throughput Test

〔 X 〕 No Support

DUT Platform Information:

| | |
|-------------------------------------|---------------------------------------|
| <input type="checkbox"/> | Fedora Core 13 |
| <input type="checkbox"/> | Cent 5.5 |
| <input checked="" type="checkbox"/> | Ubuntu 10.10 Kernel 2.6.35-22-generic |
| <input type="checkbox"/> | Red Hat |

Note : Connection-Level Performance (Interaction Constants Duration Time Set to 60 Sec.)

| | |
|----------------|---|
| Graphics Media | Ubuntu 10.10 Default setting |
| LAN | LAN1→Realtek PCIe GBE Family Controller Ethernet: r8168-8.023.00.NAPI |
| | LAN2→Realtek PCIe GBE Family Controller Ethernet: r8168-8.023.00.NAPI |
| Audio Driver | Ubuntu 10.10 Default setting |

SMB Platform Information:

| | |
|------------------|---|
| Chassis | SPIRENT Smartbits 600B |
| Chassis Version | 2.80.003 (Cur) 2.50.000 |
| Chassis Serial # | 06014047 |
| Library | 6.00-29 |
| API | 5.50.42.01 |
| File | 0550042 |
| Module | 2 * LAN-3324A SmartMetrics XD 4-Port 10/100/1000Base-T Gigabit Ethernet |
| Test Software | SmartFlow5.50.42.1 |

Test Result:

1. Half Direction (LAN1: Realtek PCIe GBE Family Controller 10/100/1G Ethernet → LAN2: Realtek PCIe GBE Family Controller 10/100/1G Ethernet)

2. Binary Direction (LAN1: Realtek PCIe GBE Family Controller 10/100/1G Ethernet → LAN2: Realtek PCIe GBE Family Controller 10/100/1G Ethernet)

2.4. Jumper Setting and Connector Test

[] No Support

| Function Test | Result | | | Note |
|--|-------------------------------------|--------------------------|-------------------------------------|------|
| | Pass | Fail | N/A | |
| 1. SW1 #1—AT/ATX mode select | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. SW1 #2—LVDS backlight level Selection | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

3. Integration Test

| Hardware Information with Windows 7 Ultimate English Version 32 Bit Driver Version | |
|--|--|
| CPU | Intel® Atom™ CPU D525 @ 1.8GHz |
| Memory | Transcend DDR3 1333 4GB Hynix H5TQ2G83CFR |
| SATA HDD | WDC WD6402AAEX-00Z3A0 3.5" 640GB |
| Chipset Information with 7 Ultimate English SP1 32 Bit Driver Version | |
| Chipset Software | Intel Chipset Device Software 9.1.1.1009 (03/09/2009) |
| North Bridge | Onboard Intel Atom D525/N455 Processors |
| South Bridge | Intel ICH8M |
| Super IO Chipset | Winbond W83627DHG-P |
| VGA Chipset | Intel Graphics Media Accelerator 3150 8.14.10.2230(10/24/2010) |
| Audio Chipset | Realtek High Definition Audio 6.0.1.6662 (06/19/2012) |
| Ethernet Chipset | Realtek PCIe FE Family Controller 7.61.612.2012(06/12/2012) |

3.1. USB Port Integration Test

| Item | USB Port | Boot | | | Function(Win 7) | | | Note |
|---|----------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|------|
| | | Pass | Fail | N/A | Pass | Fail | N/A | |
| USB HDD | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| USB FDD Mitsumi D353GUE | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| SONY USB2.0 DVD-R/W DRX-830UL | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| USB Hub Test (Connect USB Device) HUB Port1: USB Keyboard / HUB Port2: USB Mouse / HUB Port3: USB HDD | | | | | | | | |
| USB 2.0 HUB PowerSync / USB 2.0 4 Port HU-155 | | | | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

3.2. Digital I/O Port Test

| DIO Address (___) | Result | | | Note |
|---------------------|--------------------------|--------------------------|-------------------------------------|------|
| | Pass | Fail | N/A | |
| DIO VCC +5V | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

3.3. COM Port Integration Test

| Test Item | Result | | | Note |
|-----------------------|-------------------------------------|--------------------------|-------------------------------------|------------------------|
| | Pass | Fail | N/A | |
| Serial Modem Dial Out | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Serial Modem Ring In | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Tested with Modem |
| Serial Modem +12V | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Tested with Multimeter |
| Serial Modem +5V | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Tested with Multimeter |

3.4. RS-422 / RS-485 Test

| Test Item | Result | | | Note |
|-----------------|--------------------------|--------------------------|-------------------------------------|--|
| | Pass | Fail | N/A | |
| RS-422 for COM2 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Use loopback and WINSSD.exe to test RS-422 in Windows |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | The communication between the RS-422 port of two boards is linked with one 1.2km cable on Windows Terminal |
| RS-485 for COM2 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Use ICP CON I-7044D D/IO Module in Windows(Support Auto flow control) |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | The communication between the RS-485 port of two boards is linked with one 1.2km cable on Windows Terminal |

3.5. LPT Port Test

| Test Item | Result | | | Note |
|---------------------------------|-------------------------------------|--------------------------|--------------------------|------|
| | Pass | Fail | N/A | |
| XEROX Phaser 3124 Laser Printer | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

3.6. Burn In Test

Under Room Temperature: 26 °C

| Test Item | Result | | | Note |
|-----------------------|-------------------------------------|--------------------------|--------------------------|---|
| | Pass | Fail | N/A | |
| Burn In Test V7.0 Pro | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Windows 7 Ultimate SP1 English Version 32 Bit |

Note: COM PORT Baud Rate is set to 115200.

4. Application Test

4.1. PCI Slot Function (PCI Adapter Card) Test

| Adapter VGA Card | Set Simultaneous Display and Reboot | | | Note |
|---|-------------------------------------|--------------------------|-------------------------------------|----------------------|
| | Pass | Fail | N/A | |
| ASUS A9250 series PCI VGA card | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Test with WinXP SP3. |
| Adapter Sound Card | Play Sound | | | Note |
| | Pass | Fail | N/A | |
| SC3000 CM18738/C3DX PCI Audio Device | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Test with WinXP SP3. |
| Adapter SCSI Card | Copy files to SCSI HDD | | | Note |
| | Pass | Fail | N/A | |
| ADAPTEC Ultra160 SCSI ASC-29160 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Adapter Image Capture Card | Connect to CCD | | | Note |
| | Pass | Fail | N/A | |
| I-VIEW CP-1400AS (with Age STD-477FAI CCD) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Adapter LAN Card | Connect to Internet | | | Note |
| | Pass | Fail | N/A | |
| Intel GD82559 10/100 Mbps Fast Ethernet Adapter | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Test with WinXP SP3. |
| Realtek RTL8139D 10/100 Mbps LAN Card | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Test with WinXP SP3. |
| Adapter RAID Card | SATA Function Test | | | Note |
| | Pass | Fail | N/A | |
| ADAPTEC 1420SA RoHS 4-Port SATA II RAID | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Test with WinXP SP3. |
| USB2.0 Card | USB function | | | Note |
| | Pass | Fail | N/A | |
| D-Link DU-520 Rev.A1 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Test with WinXP SP3. |
| Modem card | USB function | | | Note |
| | Pass | Fail | N/A | |
| MD-56KVP PCI modem card | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Test with WinXP SP3. |

4.2. PCI-Express Function Test

| PCI-Express x1 | Function Test | | | Note |
|--|--------------------------|--------------------------|-------------------------------------|------|
| | Pass | Fail | N/A | |
| SUNIX SATA1414 eSATA & SATAII x1Express card | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Intel GIGABIT CT DESKTOP DAPTER-EXPI9301CTBLK | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| PCI-Express x4 | Function Test | | | Note |
| | Pass | Fail | N/A | |
| Adaptec AAR-1430SA SATAII HostRAID Controllers PCI-Express x4 RAID Card | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| PCI-Express x16 | Function Test | | | Note |
| | Pass | Fail | N/A | |
| ASUS EAX1600PRO/TD/256M/A (ATI Chipset) PCI-Express x16 VGA Card | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| WINFAST PX6200 TC TDH PCI-Express x16 VGA Card | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Express card | Function Test | | | Note |
| | Pass | Fail | N/A | |
| SUNIX SATA II Express card | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

| SunBox 34mm Giga LAN Express Card | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
|---|--------------------------|--------------------------|-------------------------------------|----------------------|
| Mini PCI Express Card | Function Test | | | Note |
| | Pass | Fail | N/A | |
| BearTech PCI-E 1X test card | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| AzureWave AW-NB041H 802.11 b/g/n+ 802.15BT combo card (USB/PCI-E Interface) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | PCI-E and USB single |
| COM-ME232S2 RS232 *2 module | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| IO-MESATA 3132ME R1.1 SATAII*2 module | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Sierra Wireless MC8790 3G | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | With SIM card |

4.3. Mini PCI Card Compatibility Test

| Device Item | Function Test | | | Note |
|--|-------------------------------------|--------------------------|--------------------------|------|
| | Pass | Fail | N/A | |
| Mini PCI.10/100 Base-Tx LAN (W/Intel.82551QM .A1.0) (Model:PER-C10L) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Ralink RT2561ST Mini PCI Wireless card. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| XGI Z9s Mini PCI VGA Card | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

4.4. CardBus (PCMCIA) Compatibility Function Test

| Device Item | Bit | Function Test | | | Note | |
|--|---------------|--------------------------|--------------------------|-------------------------------------|-------------------------------------|-------------|
| | | Pass | Fail | N/A | | |
| Intel PRO/Wireless 2011B LAN PC Card (WPC2011BWW) | Slot 1 (Up) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | [PC-200200] | |
| | Slot 2 (Down) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | |
| Kingston datapack DP-PCM2 / 2GB (PC Card TypeII HDD) | Slot 1 (Up) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | [PC-200201] | |
| | Slot 2 (Down) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | |
| Pci GW-NS54SG Cardbus Adapter Wireless LAN Type-II | Slot 1 (Up) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | [PC-200502] | |
| | Slot 2 (Down) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | |
| Pci GW-NS54SG Cardbus Adapter Wireless LAN Type-II | Slot 2 (Down) | 16 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | [PC-200502] |

4.5. ISA Slot Function Test

| Test Item | Result | Result | | | Note |
|-----------|---|-------------------------------------|--------------------------|-------------------------------------|----------|
| | | Pass | Fail | N/A | |
| SCSI Card | Adaptec AHA-1520B SCSI Card | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | [SS-002] |
| LAN Card | ISA LAN card CN200/600/650Eplus | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | [NW-014] |
| VGA Card | CIRRUS LOGIC 5429 FCC ID :ICUVGA-GWV27A | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | [VC-008] |

4.6. Adapter Compatibility- Industry Control Card PC/104, PC/104+, PCI-104

4.6.1. Device List: PC/104 Module

| Test Item | Result | | | Note |
|----------------|--------------------------|--------------------------|-------------------------------------|------|
| | Pass | Fail | N/A | |
| AAEON PCM-3660 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

4.6.2. Device List: PC/104+ Module

| Test Item | Result | | | Note |
|----------------|--------------------------|--------------------------|-------------------------------------|------|
| | Pass | Fail | N/A | |
| AAEON PCM-3430 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

4.6.3. Device List: PCI-104 Module

| Test Item | Result | | | Note |
|----------------|--------------------------|--------------------------|-------------------------------------|------|
| | Pass | Fail | N/A | |
| AAEON PCM-3730 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

4.6.4. Device List: PCI/104 Express Module

| Test Item | Result | | | Note |
|---------------|--------------------------|--------------------------|-------------------------------------|------|
| | Pass | Fail | N/A | |
| AAEON PER-123 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

4.7. SSD Modules Compatibility Test

SSD HDD Compatibility Test:

Cable Type: IDE SATA2 MLC SLC

| Test Item | Result | | | Note |
|------------------------------------|--------------------------|--------------------------|-------------------------------------|------|
| | Pass | Fail | N/A | |
| Transcend SSD 16G - TS16GSSD25S | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

4.8. mSATA Modules Compatibility Test

| Test Item | | Result | | | Note |
|--------------------------------|------|--------------------------|--------------------------|-------------------------------------|--------------------|
| | | Pass | Fail | N/A | |
| Transcend mSATA TS32GMSA300 | 32GB | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Install Win7_32bit |

4.9. Riser Card Function Test

| Test Item | | Result | | | Note |
|------------|--|--------------------------|--------------------------|-------------------------------------|------|
| | | Pass | Fail | N/A | |
| LAN | | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| PCI Slot | | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| PCI-e Slot | | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

5. Power Consumption Test

| | Hardware Information with Windows 7 Ultimate English Version 32 Bit Driver Version |
|----------|--|
| CPU | Intel® Atom™ CPU D525 @ 1.8GHz |
| Memory | Transcend DDR3 1333 4GB Hynix H5TQ2G83CFR |
| SATA HDD | WDC WD6402AAEX-00Z3A0 3.5" 640GB |

| | Hardware Information with Windows 7 Ultimate English Version 32 Bit Driver Version |
|----------|--|
| CPU | Intel® Atom™ CPU N455 @ 1.66GHz |
| Memory | Transcend DDR3 1333 2GB CL9 Hynix H5TQ2G83CFR |
| SATA HDD | WDC WD6402AAEX-00Z3A0 3.5" 640GB |

5.1. ATX Power Consumption

| Test Equipment | |
|----------------|---------------------------|
| Equipment | AC/DC Digital Clamp meter |
| Manufacturer | KYORITSU |
| Model name | 2010 |

| Test Environment | | | | | |
|---|---|------------|---------------|--------|------|
| Power Supply | Zippy HG2-6400P 400W | | | | |
| CPU board | ETX-LN A11 (D525) | | | | |
| Carrier board | ECB-902M A1.0 | | | | |
| Memory | Transcend DDR3 1333 4GB Hynix H5TQ2G83CFR | | | | |
| Keyboard | PS/2 GoodVision JSKJ-8831 | | | | |
| Mouse | PS/2 Logitech M-CAA43 | | | | |
| 20Pin ATX Mode | Voltage(V) | Current(A) | Total Watt(W) | | Note |
| Windows 7 SP1 32bit Idle mode | +12V | 0 | A | 14.849 | W |
| | +5V | 2.72 | | | |
| | +3.3V | 0.03 | | | |
| | +5Vsb | 0.23 | | | |
| Suspend in Window7 (S3) | +12V | 0 | A | 0.85 | W |
| | +5V | 0 | | | |
| | +3.3V | 0 | | | |
| | +5Vsb | 0.17 | | | |
| (Full Loading Mode) Windows 7 SP1 with Prime 95 Full Loading Test | +12V | 0 | A | 17.749 | W |
| | +5V | 3.24 | | | |
| | +3.3V | 0.03 | | | |
| | +5Vsb | 0.29 | | | |
| 5VSB in Power Off | 5Vsb | 0.12 | A | 0.6 | W |

| Test Environment | | | | | |
|---|---|------------|---------------|--------|------|
| Power Supply | Zippy HG2-6400P 400W | | | | |
| CPU board | ETX-LN A11 (N455) | | | | |
| Carrier board | ECB-902M A1.0 | | | | |
| Memory | Transcend DDR3 1333 2GB CL9 Hynix H5TQ2G83CFR | | | | |
| Keyboard | PS/2 GoodVision JSKJ-8831 | | | | |
| Mouse | PS/2 Logitech M-CAA43 | | | | |
| 20Pin ATX Mode | Voltage(V) | Current(A) | Total Watt(W) | | Note |
| Windows 7 SP1 32bit Idle mode | +12V | 0 | A | 10.999 | W |
| | +5V | 1.94 | | | |
| | +3.3V | 0.03 | | | |
| | +5Vsb | 0.24 | | | |
| Suspend in Window7 (S3) | +12V | 0 | A | 0.65 | W |
| | +5V | 0 | | | |
| | +3.3V | 0 | | | |
| | +5Vsb | 0.13 | | | |
| (Full Loading Mode) Windows 7 SP1 with Prime 95 Full Loading Test | +12V | 0 | A | 12.499 | W |
| | +5V | 2.18 | | | |
| | +3.3V | 0.03 | | | |
| | +5Vsb | 0.30 | | | |
| 5VSB in Power Off | +5Vsb | 0.10 | A | 0.5 | W |

5.2. PC Health Status

Test Point: The value between Actual Voltage and Voltage Monitored must be + /- 5%

| Voltage Monitoring Test | Result | | | BIOS (V) | Actual (V) | Note |
|-------------------------|-------------------------------------|--------------------------|--------------------------|----------|------------|------|
| | Pass | Fail | N/A | | | |
| System Temperature | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 45°C | 40°C | |
| CPU Temperature | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 73°C | 65°C | |
| SB Temperature | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 47°C | 44°C | |
| CPU Fan Speed | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4470 RPM | N/A RPM | |
| CPU VCORE | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1.080 | 1.06 | |
| 1.5V | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1.512 | 1.46 | |
| 5V | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4.960 | 4.90 | |
| DDR | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1.528 | 1.510 | |
| 3.3V | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3.344 | 3.28 | |
| 3VSB | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3.344 | 3.28 | |
| VBAT | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3.232 | 3.16 | |

6. Time Accuracy Test

6.1. System Clock & RTC Clock Test

Under Room Temperature: 26 °C

| Function | Item | Time Interval | Criteria | Actual | | Result | | | Note |
|-----------------------------|------|---------------|----------|--------|-----|-------------------------------------|--------------------------|--------------------------|----------------|
| | | | | | | Pass | Fail | N/A | |
| RTC Clock in Power On Mode | | 24 hrs | +/-2 sec | -1 | Sec | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Test with N455 |
| RTC Clock in Power Off Mode | | 24 hrs | +/-2 sec | +1 | Sec | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Test with N455 |

6.2. Booting Timer Test

| Installation | Actual | | Note |
|---------------------|--------|-----|---|
| System Booting Time | 7.2 | Sec | Period for "Beep" starts to Sound after pressing Power Button Test with D525 |

6.3. Watchdog Timer Test

Use Function as below: ETXL-WDT.exe

[] No Support.

| Time-Out Interval | Margin for error | Actual | | Result | | | Note |
|-------------------|------------------|--------|-----|-------------------------------------|--------------------------|--------------------------|------|
| | | | | Pass | Fail | N/A | |
| 10 sec | +/- 10% | 9.5 | Sec | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 60 sec | +/- 10% | 59 | Sec | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 250 sec | +/- 10% | 254.5 | Sec | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

Note : Under Room Temperature: 26°C / DOS Mode

7. O.S. Compatibility Test

7.1. English Fedora Core 15– Kernel 2.6.38.6-26.rc1.fc15.i686

[] No Support

Driver Information:

| | |
|------------------|--|
| Chipset Software | System default |
| Graphics Media | System default |
| Audio Driver | System default |
| LAN Driver | Realtek RTL8101 Fast Ethernet driver 1.022.00-NAPI |

Install OS to SATA HDD:

| Installation | Result | | | Note |
|--|-------------------------------------|--------------------------|--------------------------|---|
| | Pass | Fail | N/A | |
| English Fedora Core 15– Kernel 2.6.38.6-26.rc1.fc15.i686 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Type uname -a After installation, primary display on LVDS. |

Test Result:

| Test Item | Result | | | Note |
|--|-------------------------------------|--------------------------|-------------------------------------|---------------------------|
| | Pass | Fail | N/A | |
| Display Function Test | | | | |
| VGA – Full Screen | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| LVDS – Full Screen | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Network Function Test | | | | |
| Connect to Internet – LAN 1 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Connect to Internet – LAN 2 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Audio Function Test | | | | |
| Play Audio Function Test | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Play Audio Test |
| Base Function Test | | | | |
| Mouse Test | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | PS/2 |
| Keyboard Test | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | PS/2 |
| USB 2.0 Removable Devices | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| X Windows Application | | | | |
| Start Button Office | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Office function |
| X-Window | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Startx – Desktop in Linux |
| Command Test On Text Mode: Attention Delay Phenomenon | | | | |
| uname -a | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Show information |
| Shutdown | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Init 0 or shutdown -h now |
| Restart the Computer | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Init 6 or shutdown -r now |
| Halt | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Power Off Mode |
| ls / clear; cd /dev /ls -l | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Command instruction |

7.2. Windows 7 Ultimate English Version 32/64Bit

[] No Support

[X] x32 Driver Information:

| | |
|------------------|--|
| Chipset Software | Intel Chipset Device Software 9.1.1.1009 (03/09/2009) |
| Graphics Media | Intel Graphics Media Accelerator 3150 8.14.10.2230(10/24/2010) |
| Audio Driver | Realtek High Definition Audio 6.0.1.6662 (06/19/2012) |
| LAN Driver | Realtek PCIe FE Family Controller 7.61.612.2012(06/12/2012) |

[X] x64 Driver Information:

| | |
|------------------|--|
| Chipset Software | Intel Chipset Device Software 9.1.1.1025 (12/14/2009) |
| Graphics Media | Intel Graphics Media Accelerator 3150 8.14.10.2117(04/19/2010) |
| Audio Driver | Realtek High Definition Audio 6.0.1.6662 (06/19/2012) |
| LAN Driver | Realtek PCIe FE Family Controller 7.61.612.2012(06/12/2012) |

Install OS to SATA HDD:

| Installation | Result | | | Note |
|--------------------------------------|-------------------------------------|--------------------------|--------------------------|------|
| | Pass | Fail | N/A | |
| English Windows 7 Ultimate ACPI Mode | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

Test Results:

| Test Item | Result | | | Note |
|--|-------------------------------------|--------------------------|-------------------------------------|----------|
| | Pass | Fail | N/A | |
| Single Display | | | | |
| VGA – Full Screen | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| DVI – Full Screen | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| LVDS – Full Screen | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1024*768 |
| Boot – Windows 7 Ultimate Advanced Options Menu | | | | |
| Safe Mode | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Basic Function Test | | | | |
| PS/2 Mouse and Keyboard | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| USB Mouse and Keyboard | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| COM Port Mouse detect | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| LPT1 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Printer |
| USB 2.0 Removable Devices | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| LAN Function Test | | | | |
| LAN1 --- Auto | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| LAN2 --- Auto | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Audio Function Test | | | | |
| Line Out Test | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Line In Test | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Microphone Test | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| S/P DIF Test | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Start Menu | | | | |
| Log off User | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Shut down (S5) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Standby(S3) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Standby(S1) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Restart | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Hibernate (S4) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

7.3. Windows XP SP3 English Version 32/64Bit

[] No Support

[X] x32 Driver Information:

| | |
|------------------|--|
| Chipset Software | Intel Chipset Device Software 9.1.1.1009 (03/09/2009) |
| Graphics Media | Intel Graphics Media Accelerator 3150 6.14.10.5244(03/17/2010) |
| Audio Driver | Realtek High Definition Audio 5.10.0.6662 (06/19/2012) |
| LAN Driver | Realtek PCIe FE Family Controller 5.798.523.2012(05/23/2012) |

[X] x64 Driver Information:

| | |
|------------------|--|
| Chipset Software | Intel Chipset Device Software 9.1.1.1025 (12/14/2009) |
| Graphics Media | Intel Graphics Media Accelerator 3150 6.14.10.5260(04/25/2010) |
| Audio Driver | Realtek High Definition Audio 5.10.0.6662 (06/19/2012) |
| LAN Driver | Realtek PCIe FE Family Controller 5.798.523.2012(05/23/2012) |

Install OS to SATA HDD:

| Installation | Result | | | Note |
|--|-------------------------------------|--------------------------|--------------------------|---------------------|
| | Pass | Fail | N/A | |
| English Windows XP 32bit SP3 ACPI Mode | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| English Windows XP 64bit ACPI Mode | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | AHCI mode/ IDE mode |

Test Results:

| Test Item | Result | | | Note |
|---|-------------------------------------|--------------------------|-------------------------------------|----------------|
| | Pass | Fail | N/A | |
| Single Display | | | | |
| VGA – Full Screen | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| DVI – Full Screen | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| LVDS – Full Screen | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Boot – Windows XP Ultimate Advanced Options Menu | | | | |
| Safe Mode | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Basic Function Test | | | | |
| PS/2 Mouse and Keyboard | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| USB Mouse and Keyboard | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| COM Port Mouse detect | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| LPT1 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| USB 2.0 Removable Devices | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| LAN Function Test | | | | |
| LAN1 --- Auto | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| LAN2 --- Auto | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Audio Function Test | | | | |
| Line Out Test | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Line In Test | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Recode test ok |
| Microphone Test | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Recode test ok |
| S/P DIF Test | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Start Menu | | | | |
| Log off User | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Shut down (S5) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Standby(S3) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Standby(S1) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Restart | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Hibernate (S4) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

8. BIOS Function Test

| Hardware Information with Windows 7 Ultimate English Version 32 Bit Driver Version | |
|--|---|
| CPU | Intel® Atom™ CPU D525 @ 1.8GHz |
| Memory | Transcend DDR3 1333 4GB Hynix H5TQ2G83CFR |
| SATA HDD | WDC WD6402AAEX-00Z3A0 3.5" 640GB |

8.1. Advanced Test

| Test Item | Result | | | Note | | |
|----------------------------------|------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---|--|
| | Pass | Fail | N/A | | | |
| ACPI | Hibernation | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| | Sleep state | Disable | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| | | S1 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| | | S3 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| | Wake on Ring | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| | S5 RTC wake Settings | Fixed Time | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Dynamic Time | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Test with 1sec | |
| CPU configuration | Hyper-threading | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Enable/Disable | |
| | Intel Speed Step | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Test with Intel tool: 351424_FreqDsp_Installer | |
| Intel IGD Configuration | OVMT/FIXD Memory | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 128MB/256MB/Maximum(384MB) | |
| | IGFX-Boot type | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| | LCD panel type | 640*480 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| | | 800*600 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| | | 1024*768 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| | | 800*480 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| | | 1280*768 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| | | 1280*800 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| | 1366*768 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| | Backlight Brightness Setting | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 0~100%=3.3V~0V | |
| LVDS output Format | 18bit | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| | 24bit | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| IDE Configuration | PATA Ultra DMA mode | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Disable/ UDMA33 /UDMA66 or higher | |
| | Compatible mode | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| | Enhanced mode | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| | Configure SATA as | IDE mode | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| | | AHCI mode | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| | PATA device information | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| | SATA device information | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| USB configuration | Legacy USB Support | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| W83627DHG super IO configuration | LPT/FDD function Selection | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | |
| | Serial port 0 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| | Serial port1 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| | Parallel port | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| | AC Power Loss State | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |

8.2. Chipset Test

| Test Item | | | Result | | | Note |
|--------------|--------------------------|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|------|
| | | | Pass | Fail | N/A | |
| Host Bridge | Initiate Graphic adapter | IGD | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| | | PCI/IGD | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| South Bridge | HD audio controller | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| | USB Function | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| | USB 2.0 support | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| | SMBus controller | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| | LAN controller | | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| | Power mode | AT | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| | | ATX | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| | SLP_S4 Assertion width | 1-2 seconds | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| | | 2-3 seconds | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| | | 3-4 seconds | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 4-5 seconds | | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | |

8.3. Boot Test

| Test Item | Result | | | Note |
|----------------------|-------------------------------------|--------------------------|--------------------------|------|
| | Pass | Fail | N/A | |
| Quiet Boot | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Launch PXE OpROM | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Boot From Hard Disk | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Boot From CDROM | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Boot From USB HDD | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Boot From USB Floppy | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Boot From USB CD-ROM | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Boot from LAN | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Disable | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

8.4. CMOS Backup / Clear CMOS Test

| Test Item | Result | | | Note |
|-----------------|-------------------------------------|--------------------------|-------------------------------------|------|
| | Pass | Fail | N/A | |
| CMOS Backup | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Clear CMOS Test | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

8.5. AAEON Tag Check Utility

| Test Item | Result | | | Note |
|---------------------|-------------------------------------|--------------------------|--------------------------|--------------|
| | Pass | Fail | N/A | |
| Check AAEON BIOS OK | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | AONCHECK.EXE |

8.6. Supervisor / User Password Test

| Test Item | Result | | | Note |
|---------------------|-------------------------------------|--------------------------|--------------------------|------|
| | Pass | Fail | N/A | |
| Supervisor Password | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| User Password | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

9. Performance Test

| | Hardware Information with Windows 7 Ultimate English Version 32 Bit Driver Version |
|----------|--|
| CPU | Intel® Atom™ CPU D525 @ 1.8GHz |
| Memory | Transcend DDR3 1333 4GB Hynix H5TQ2G83CFR |
| SATA HDD | WDC WD6402AAEX-00Z3A0 3.5" 640GB |

| | Hardware Information with Windows 7 Ultimate English Version 32 Bit Driver Version |
|----------|--|
| CPU | Intel® Atom™ CPU N455 @ 1.66GHz |
| Memory | Transcend DDR3 1333 2GB CL9 Hynix H5TQ2G83CFR |
| SATA HDD | WDC WD6402AAEX-00Z3A0 3.5" 640GB |

9-1. Performance Test

Test Result: (Display set 1920*1080 test)

| Testing Software | Scope | | Note |
|--------------------|-------|------|--------------------|
| | D525 | N455 | |
| PCMark2002 | | | Only for Windows 7 |
| CPU | N/A | N/A | |
| Memory | 8000 | 6857 | |
| HDD | 3353 | 3061 | |
| Benchmark (A) | - | | |
| PCMark2005 | | | Windows 7 |
| PCMark | 2685 | 1474 | PCMarks |
| CPU | 2133 | 1515 | |
| Memory | 2825 | 2523 | |
| Graphics | 848 | 456 | |
| HDD | 8243 | 7838 | |
| Benchmark (B) | - | | |
| Average Efficiency | - | | |

| Testing Software | Scope | | Note |
|------------------------|-------|------|--------------------|
| | D525 | N455 | |
| 3Dmark2003 v360 | | | Only for Windows 7 |
| 3Dmark Score | 579 | 469 | |
| CPU Score | 305 | 269 | |
| Benchmark (A) | - | | |
| 3Dmark2006 v120 | | | Windows 7 |
| 3Dmark Score | 170 | 129 | |
| CPU Score | 905 | 497 | |
| SM2.0 Score | 78 | 60 | |
| HDR/SM3.0 Score | N/A | N/A | |
| Benchmark (B) | - | | |
| Average Efficiency | - | | |

| Testing Software | Scope | | Note |
|---|-------|-------|---------------|
| | D525 | N455 | |
| Final Reality V1.01—BenchMark Test | | | Windows 7 |
| 2D image | 23.02 | 20.77 | |
| 3D | 4.08 | 3.88 | |
| Bus transfer | 10.91 | 9.7 | |
| Overall | 10.79 | 9.82 | Reality marks |
| Benchmark (A) | - | | |

| Testing Software | Scope | | Note |
|---------------------|-------|-------|-----------|
| | D525 | N455 | |
| Performance7 | | | Windows 7 |
| PassMark Rating | 386.7 | 233.6 | |
| CPU Mark | 705.2 | 324.8 | |
| 2D Graphics Mark | 142.5 | 87.9 | |
| 3D Graphics Mark | 70.7 | 55.2 | |
| Memory Mark | 292.7 | 226.6 | |
| Disk Mark | 748.1 | 749.0 | |

| Testing Software | Scope | | Note |
|---------------------------------|-------|------|-----------|
| | D525 | N455 | |
| Windows experience index | | | Windows 7 |
| Processor | 3.5 | 3.5 | |
| Memory | 4.9 | 4.5 | |
| Graphics | 3.2 | 2.6 | |
| Gaming graphics | 3.1 | 3.0 | |
| Primary hard disk | 5.9 | 5.9 | |