# intel®

**Server WHQL Testing Services**

**Enterprise Platforms and Services Division**

# Intel® Server SE7221BK1LX

## Server Test Submission (STS) Report

## For the Microsoft® Windows® Logo Program (WLP)

Rev 1.0

**February 14, 2005**

This report describes the Intel® SE7221BK1LX Server Platform Logo Program test run conducted by Intel Enterprise Platforms and Services Division (EPSD).

**Purpose of this WLP Submission:**

System First Time submission for the Microsoft* Designed for Windows Logo submission for the Intel® Server Board SE7221BK1LX.

| Submission Type: | Reason for test run | Check one |
|---|---|---|
| First Time Submission | Initial Microsoft Designed for Windows logo submission.  New product submission. | ☑ |
| System Update | Hardware update.  (For example, update submission test run with new processor speeds.) | ☐ |
| BIOS Update | BIOS and/or Firmware update.  (For example, update submission test run with new BIOS to support additional processor speeds.) | ☐ |
| OS Update | OS update. (For example, update submission test run to add Microsoft Designed for Windows Server 2003 logo to product.) | ☐ |

# Revision History and Disclaimers

| Revision History | | |
|---|---|---|
| **Revision** | **Date** | **Comments** |
| 1.0 | 2/14/2005 | Internal draft of the STS Report for Windows Server 2003 & Windows 2000 WLP Submission for Intel® Server Board SE7221BK1LX. |

# Contents

# Introduction

This report provides an overview of the testing conducted on the Intel® Server Board SE7221BK1LX without RAID enabled by Intel EPSD and provides details about this testing run.

## Overview of Contents

| Section | Content |
|---|---|
| Introduction | Brief descriptions of the sections in the report.  Table listing terms and definitions. |
| Server Product Submission Information | Submission information, ID # and final server board configuration upon completion of WLP including HW, Driver version, BIOS version, and Board AA number |
| HCT | All HCT's used during testing |
| Errata and Contingencies | All Microsoft* errata or contingencies used during testing |

## Terms and Definitions

| Term | Definitions |
|---|---|
| EPSD | Enterprise Platforms and Services Division |
| HCL | Windows Hardware Compatibility List.  You can view the HCL at: http://www.microsoft.com/whdc/hcl/search.mspx |
| HCT | Hardware Compatibility Tests.  For latest Server HCTs visit: http://www.microsoft.com/whdc/hwtest/system/default.mspx |
| STS | Server Test Submission Report published by EPSD |
| WHDC | Windows* Hardware and Driver Central.  Provides technical information, development and testing kits, newsletters and support information.  http://www.microsoft.com/whdc/default.mspx |
| WHOS | Windows Hardware Online Service – Secure online web site used to submit products for logo qualification and review submission history.  https://winqual.microsoft.com/ |
| WHQL | Windows* Hardware Qualification Lab.  For more information visit the WHDC home page at: http://www.microsoft.com/whdc/default.mspx |
| WLP | Windows Logo Program.  For further information see: http://www.microsoft.com/whdc/winlogo/default.mspx |
| WTS | Workstation Test Submission Report published by EPSD |

# Server Board Submission Information

## Intel Server Board Submission Report: Completion of WLP

Data in this section reflects system submission information at the time of WLP Update submission.

## Submission Information

| Submission ID | | |
|---|---|---|
| Submission ID / Master ID | 942542 | |
| **Submission Type** | | |
| | **Check Submission Type** | **Comments** |
| First-Time Hardware and Driver Test Submission | ☑ | |
| System Update Test Submission | ☐ | |
| **Product Category** | | |
| Hardware Category | PC System or Server | |
| Operating System family | Windows Server 2003 and  Windows 2000 families | |
| **Product Detail** | | |
| **General Product Information** | | |
| Equipment Type | Server | |
| Primary Target Market | Business/Corporate | |
| Compliance | All applicable requirements | |
| **Characterization (optional)** | | |
| | **Check appropriate options** | **Comments** |
| Web Server | ☑ | |
| SQL Database Server | ☑ | |
| File Server | ☑ | |

## Server Board Configuration Information

| Processor | |
|---|---|
| Quantity | 1 (physical processors installed) |
| Front Side Bus Speed | 800 MHz |
| Family/Model | Intel Pentium 4; Prescott LGA-775 |
| Speed | 3.2GHz, 3.4GHz, 3.6GHz |
| **System Memory** | |
| Amount Installed | 4 GB |
| Memory Type | DDR II 400/533MHz |
| **Power Management** | |
| ACPI Sleep States (S1, S2, S3, S4) | S1, S4 |
| **Server Board Product** | |
| System uses logo'd motherboard | NO (Server boards are <u>NOT</u> eligible for logo under the Microsoft* Motherboard logo program) |
| Board AA #/Fab | C78048-401 |
| Board Manufacturer | Intel Corporation |
| Board Model | Intel® Server Board SE7221BK1LX |
| Northbridge* Chipset Manufacturer | Intel Corporation |
| Northbridge Chipset Model | Intel E7221 chipset |
| Southbridge* Chipset Manufacturer | Intel Corporation |
| Southbridge Chipset Model | Intel E7221 chipset |
| **BIOS** | |
| BIOS Manufacturer | AMI* |
| BIOS Version | SE7221BK1E.86B.P.02.00.0018.110520043934 |
| BIOS Date | 11/05/2004 |
| BIOS URL (For Updates) | htttp://support.intel.com/support/motherboards/server/SE7221BK1/ |

| Bus Types | | | |
|---|---|---|---|
| | **Check all that Apply** | | **Check all that Apply** |
| PS/2 | ☑ | AGP* | ☐ |
| 1394 | ☐ | PCCard* (16-bit) | ☐ |
| CF (Compact Flash) | ☐ | CardBus* (32-bit) | ☐ |
| PCI | ☑ | USB | ☐ |
| Mini-PCI | ☐ | USB 2.0 | ☑ |
| AMR | ☐ | InfiniBand* | ☐ |
| ACR | ☐ | Bluetooth* | ☐ |
| COM (Serial) | ☑ | PCI Express | ☑ |
| **Integrated Components** | | | |
| | **Check all that Apply** | | **Check all that Apply** |
| Audio | ☐ | Display | ☑ |
| IDE | ☑ | Networking | ☑ |
| SCSI | ☐ | RAID | ☑ |
| Modem | ☐ | Bluetooth* | ☐ |

## Onboard Integrated Devices and Drivers

Data in this section reflects system configuration at the time of WLP submission.  The latest drivers for the Intel® Server Board SE7221BK1LX are available for download at:

[ttp://support.intel.com/support/motherboards/server/SE7221BK1/](ttp://support.intel.com/support/motherboards/server/SE7221BK1/)

| Technology | OS | Version |
|---|---|---|
| **LAN**<br>2 X Intel PRO/1000 MT Server Network Connections That Support 10/100/1000 | **Windows Server 2003** | v. 8.4.21.0 |
| **Display**<br>Intel Integrated 7221 Graphics Adaptor | **Windows Server 2003** | 6.00.01.0004 |
| **Serial RAID ATA**<br>**(Off the ICH6)**<br>The Intel ICH6 SATA system contains two independent SATA signal ports that can be configured as either a RAID 1 or 0 | **Windows Server 2003** | 4.2.1118.2004 |

## Product Data for HCL: Completion of WLP

Data in this section reflects product data for HCL at time of WLP submission.

| Product Data | |
|---|---|
| Product Name | Intel® Server Board SE7221BK1LX |
| Additional Product Names | |
| | |

| Supported Platforms | | |
|---|---|---|
| | **Check Tested** | **Comments** |
| Windows 2000 Server | ☑ | |
| Windows 2000 Advanced Server | ☑ | |
| Windows Server 2003, Web Edition | ☑ | |
| Windows Server 2003, Standard Edition | ☑ | |
| Windows Server 2003, Enterprise Edition | ☑ | |

# Hardware Compatibility Tests Used

Microsoft* Windows Hardware Driver Central Server Testing Home Page: http://www.microsoft.com/whdc/hwtest/system/default.mspx.

Please check this website regularly for test kit updates.

| Operating Systems | Notes | Hardware Compatibility Tests (HCT) |
|---|---|---|
| Windows* 2000 | HCT 9.502 Test Procedures for Systems, Servers and Cluster Servers (Windows 2000)<br><br>http://download.microsoft.com/download/whistler/Docs/Docs/W982KMeXP/EN-US/HCT9502_Systems.exe | HCT 9.502 Test Kit (Windows 2000) (35.4 MB)<br><br>http://download.microsoft.com/download/whistler/Tools/Tools/W98NT42KMeXP/EN-US/HCT9502UPD.EXE |
| | Logo'd Components Index Full Install | Logo'd Components Index Full Install (~9.8 MB)<br><br>http://download.microsoft.com/download/whistler/Install/20.0/W982KMeXP/EN-US/logoidx.exe |
| | 391 NDIS Intermediate Drivers Instructions<br><br>http://download.microsoft.com/download/whistler/Install/20.1/W982KMeXP/EN-US/NDISIntermedDriver.exe | Beta NDIS Test Update (ndt391.exe) (2MB)<br><br>http://download.microsoft.com/download/whistler/Install/12.2/W982KMeXP/EN-US/ndt391.exe |
| | 386 NDIS Intermediate Drivers Instructions<br><br>http://download.microsoft.com/download/whistler/Install/20.1/W982KMeXP/EN-US/NDISIntermedDriver.exe | NDIS Test Update for Windows 98 SE, Windows Me, and Windows 2000 (ndt386.exe) (2.02MB)<br><br>http://download.microsoft.com/download/whistler/Install/12.2/W982KMeXP/EN-US/ndt386.exe |
| Windows Server 2003 | HCT 11.2 Test Procedures and Readme files for Windows XP SP1 and Windows Server 2003 (4.95MB)<br><br>http://www.microsoft.com/whdc/hwtest/search/details.aspx?ID=725 | HCT 11.2 (Windows XP SP1 and Windows Server 2003) Test Kit (4.95MB)<br><br>http://www.microsoft.com/whdc/hwtest/search/details.aspx?ID=724 |
| | Logo'd Components Index Full Install | Logo'd Components Index Full Install (~9.8 MB)<br><br>http://download.microsoft.com/download/whistler/Install/20.0/W982KMeXP/EN-US/logoidx.exe |

# Errata and Contingencies

Microsoft*System HCT Errata list is available at:

http://www.microsoft.com/whdc/hwtest/search/results.aspx?type=errata&key=system&kit=-1

| Operating System | Identification Number | Title |
| --- | --- | --- |
| Windows* 2000 | 298 | PCI Power Management Register Interface Test: False Failure |
| Windows 2000 | 372 | ACPI System test fails systems that support ACPI table version 1.0 or greater |
| Windows Server 2003 | 610 | Intel ICHx Contingency |
| Windows 2000 | 702 | Audio tests are not required for servers that do not implement audio devices |
| Windows 2000 | 719 | DVD test cannot be run on systems without a DVD drive |
| Windows 2000 | 722 | PCI 2.2 Compliance test and PCI 2.1 (Cards) test might fail test systems with ATA/ATAPI controllers |
| Windows Server 2003 | 772 | LAN Device Wake test is not required on network devices in mobile systems, multifunction, broadband, LAN emulation, wireless LAN, server LAN, or bus-powered USB network devices |
| Windows 2000 | 826 | PCI 2.1 Compliance test, PCI 2.1 Cards test, PCI 2.2 Compliance test, and CardBus Bridge Register test fail on devices that are PCI 2.3-compliant |
| Windows Server 2003 | 860 | Enable/Disable – Device I/O test fails on USB 2.0 host controllers |
| Windows Server 2003 | 901 | The ACPI Verifier test fails the E820 table when the system memory controller is a child of the PCI Bus |
| Windows Server 2003 | 1012 | Enable/Disable - Device I/O test false-fails because of LPT port errors |
| Windows 2000 | 1182 | ACPI Sleep test conflicts with Windows 2000 Service Pack 4 |

## Submission Readme File

Effective May 1, 2002, the new Microsoft standardized Readme form will be required for all hardware submissions that include any of the following testing exceptions:

- Test failures
- Tests not run
- Missing test logs
- Inconclusive test results

All testing exceptions must be identified with a valid Errata ID, Incident ID, or Contingency ID provided by WHQL.  The new Microsoft standardized Readme file is available for download at:

http://download.microsoft.com/download/whistler/install/1.0/w98nt42kmexp/en-us/readme.exe

## Testing Exceptions for Intel® Server SE7221BK1LX Windows 2000 Submission

Logs are no longer accepted for Windows 2000. When submitted with a current OS like Windows 2003 Enterprise Server and requested, Windows 2000 will receive a "Supported" status.

## Testing Exceptions for Intel® Server SE7221BK1LX Windows Server 2003

Data in this section reflects product data and test exceptions listed in section 2 of the Intel® Server SE7221BK1LX  Readme file at time of WLP First-Time submission ID Number 942542.

| Operating system (Windows XP, Windows 2000, etc.) | Failure type (Contingency, Errata, Incident) | ID number |
|---|---|---|
| Windows 2003 EE | Errata | 670 |
| **Failing test name** | | |
| **Applicable error message** (Type **N/A** if the error message or failing text is excessive or if there is no text) | PCI Pre-OS Tests: PCI Configuration Header Dump test; **Pcidump.log** PCI Power Management Register Interface test; **Pcicap.log** Subsystem ID and Subsystem Vendor ID test; **Pcisid.log** PCI Test Adapter Diagnostic test; **Pmdiag.log** PME# Signal Routing test; **Pcipme1.log** PME# Signal Routing - Simultaneous test; **Pcipme2.log** PCI 3.3 Volt Auxiliary Power Load test; **Pcivaux.log** System Wake Up test; **Pciwake.log** PCI Voltage Requirement test; **Pcivolt.log** PCI Voltage Requirement - 3.3 Vaux test; **Pcivoltz.log** S3 Compliance test; **S3test.log** | |
| **Additional information** (for example, test system in a multiple system configuration) | PCI Pre-OS tests that use FoxFire cards are no longer required | |

| Operating system (Windows XP, Windows 2000, etc.) | Failure type (Contingency, Errata, Incident) | ID number |
|---|---|---|
| Windows 2003 EE | Errata | 860 |
| **Failing test name** | Enable/Disable – Device I/O | |
| **Applicable error message** (Type **N/A** if the error message or failing text is excessive or if there is no text) | &#124;ID=PCI\VEN_8086&DEV_2658&SUBSYS_34448086&REV_03\3&11583659&0&E8 &#124;Friendly Name=(null) &#124;Status=25175040 Prob=22<br><br>&#124;Status=DN_HAS_PROBLEM,DN_DISABLEABLE,DN_NT_ENUMERATOR,DN_NT_DRIVER, &#124;Prob=CM_PROB_DISABLED TEST 2 :FAIL | |
| **Additional information** (for example, test system in a multiple system configuration) | Enable/Disable – Device I/O test fails on USB 2.0 host controllers | |

| Operating system<br>(Windows XP, Windows 2000, etc.) | Failure type<br>(Contingency, Errata, Incident) | ID number |
|---|---|---|
| Windows 2003 EE | Errata | 901 |
| **Failing test name** | ACPI Verifier | |
| **Applicable error message**<br>(Type **N/A** if the error message or failing text is excessive or if there is no text) | \| The memory range specified is in conflict with the system's E820 table.<br>\| The E820 table says that this memory range is in the AcpiAddressRangeMemory range<br>\| which is conflicting with the requested memory range which is<br>\| between 0x0 - 0x9d800 | |
| **Additional information**<br>(for example, test system in a multiple system configuration) | | |

| Operating system<br>(Windows XP, Windows 2000, etc.) | Failure type<br>(Contingency, Errata, Incident) | ID number |
|---|---|---|
| Windows 2003 EE | Errata | 1273 |
| **Failing test name** | HCT 11.2 PCI Compliance Test | |
| **Applicable error message**<br>(Type **N/A** if the error message or failing text is excessive or if there is no text) | 7D8.7DC :  +TEST+SEV2      : Error: Unable to locate driver!  Possibly not installed.. | |
| **Additional information**<br>(for example, test system in a multiple system configuration) | | |

| Operating system<br>(Windows XP, Windows 2000, etc.) | Failure type<br>(Contingency, Errata, Incident) | ID number |
|---|---|---|
| Windows 2003 EE | Errata | 1306 |
| **Failing test name** | HCT 12 PCI Compliance Test | |
| **Applicable error message**<br>(Type **N/A** if the error message or failing text is excessive or if there is no text) | 3E8.3F4 :  DEVICE INFO    : Intel(R) PRO/1000 MT Network Connection<br>3E8.3F4 :  DEVICE INFO   : PCI\VEN_8086&DEV_1076&SUBSYS_34448086&REV_05\4&23c0b1c&0&18F0<br>3E8.3F4 :  +TEST+SEV2      : FAIL: - A PCI-X device that generates interrupts must have an MSI or MSI-X capability. | |
| **Additional information**<br>(for example, test system in a multiple system configuration) | | |

| Operating system (Windows XP, Windows 2000, etc.) | Failure type (Contingency, Errata, Incident) | ID number |
|---|---|---|
| Windows 2003 EE | Errata | 941 |
| **Failing test name** | PCI Configuration Header Dump | |
| **Applicable error message** (Type **N/A** if the error message or failing text is excessive or if there is no text) | +TEST+SEV1 : Unknown new capability ID or PCI Device, 0x0d<br>+TEST+SEV1 : Unknown new capability ID or PCI Device, 0x0d | |
| **Additional information** (for example, test system in a multiple system configuration) | | |

**Tip**  If necessary, you can use the copy and paste features in Microsoft Word® to add additional tables to this document.

# Section 3: Additional Information

Use this section to include any additional information that is required for your submission type or requested by WHQL.
For example, list delta information between this submission and the parent submission.

**The PCI Compliance errors reported in this readme.doc were run with both the HCT 11.2 test kit and the HCT 12 test kit. The HCT 11.2 PCI Compliance test failed with errata 1273 which requires a run with the PCI Compliance test in the HCT 12 test kit. That test failed also but was covered by errata 1306.**

**I wanted to make sure the failures in both test kits were captured.**

**The HCT 12 whqlhct.cab is located in a directory called "PCI Compliance" with the submission logs.**

# Appendix A – Submission History

Microsoft "Designed for Windows*" logo submission history for the Intel® Server SE7221BK1LX.

| Submission ID | Type | Date | OS Qualified | Processor Speeds | Board Revision | BIOS Version |
|---|---|---|---|---|---|---|
| 942542 | First-time | 2/14/2005 | Windows 2003 EE and Windows 2003 with a "Supported" status only | 3.2GHz, 3.4GHz, 3.6GHz | C78048-401 | P02 11/5/2004 |