



Motherboard Logo Program (MLP)

Intel® Desktop Board

DG41TX

MLP Report

3/24/2011

Purpose:

This report describes the DG41TX Motherboard Logo Program testing run conducted by Intel Corporation.

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Introduction

Terms and Definitions

| Term | Definitions |
|--------------------------|---|
| WHQL | Windows* Hardware Qualification Lab |
| WLK | Windows Logo Kits |
| MLP | Motherboard Logo Program. For further information see: http://www.microsoft.com/whdc/hwtest/default.msp |
| AP Machine | Audio Precision Machine |
| Winqual | Windows Qualification |
| MSFT Tested Product List | Tested Products List. You can view the Windows Marketplace for tested products list at: http://winqual.microsoft.com/HCL/ProductList.aspx?m=v&cid=105&q=s |

Desktop Board Configuration

Desktop Board DG41 TX Final Configuration Report: Completion of MLP

Data in this section reflects system configuration at time of MLP submission.

Board Information

| | | |
|--|-------------------------------------|------------------------------------|
| Product Code ¹ | BIOS String/Model | Technologies NOT Logo'd (yet) |
| DG41TX | TXG4110H.86A.0037.2010.0222.1734 | N/A - all technologies logo'd |
| Processor | | |
| Speed | 3.33GHz | |
| Family | Intel® Core™2 Duo | |
| Bus Speed | 1333 MHz | |
| Motherboard | | |
| Board AA # | E78178 | |
| Board FAB # | 300 | |
| * This report applies to the production FAB revision; Please consult your Intel Corporation representative to clarify the motherboard revision you intend to perform logo testing if not the same. | | |
| System Memory | | |
| Speed | Dual Channel, DDR3, 1066MHz | |
| Memory Type | DIMM | |
| Connector Type | DDR3, 240 Pin | |
| Power Management | | |
| BIOS Default | S3 | |
| Operating System Tested | | |
| | Check Tested | Comments |
| Windows 7 32-bit and 64-bit | <input checked="" type="checkbox"/> | Windows 7 Ultimate |
| Windows Vista 32-bit and 64-bit | <input checked="" type="checkbox"/> | Vista Ultimate with Service Pack 2 |

¹ These are the product names to enter in the "Submission ID of previously logo'd qualified PC system or server" field during your "System Using a Previously Logo'd Motherboard" submission to Microsoft.

Onboard Integrated Devices and Driver for Vista 32-bit and 64-bit

| Technology | OS | Version | Package version |
|---|----------------------|--------------|-----------------|
| Chipset Update Utility Intel® Chipset Software Utility | Windows Vista | 9.1.1.1016 | 9.1.1.1016 |
| | Windows Vista 64-bit | 9.1.1.1016 | 9.1.1.1016 |
| Graphics Intel® Graphics Media Accelerator | Windows Vista | 8.15.10.2021 | 15.16.5.2021 |
| | Windows Vista 64-bit | 8.15.10.2021 | 15.16.5.64.2021 |
| Audio Realtek | Windows Vista | 6.0.1.6015 | 6015 |
| | Windows Vista 64-bit | 6.0.1.6015 | 6015 |
| LAN Broadcom | Windows Vista | 12.4.0.3 | 12.4.0.3 |
| | Windows Vista 64-bit | 12.4.0.3 | 12.4.0.3 |

Onboard Integrated Devices and Driver for Windows 7 32-bit and 64-bit

| Technology | OS | Version | Package version |
|---|------------------|--------------|-----------------|
| Chipset Update Utility Intel® Chipset Software Utility | Windows 7 | 9.1.1.1016 | 9.1.1.1016 |
| | Windows 7 64-bit | 9.1.1.1016 | 9.1.1.1016 |
| Graphics Intel® Graphics Media Accelerator | Windows 7 | 8.15.10.2021 | 15.16.5.2021 |
| | Windows 7 64-bit | 8.15.10.2021 | 15.16.5.64.2021 |
| Audio Realtek | Windows 7 | 6.0.1.6015 | 6015 |
| | Windows 7 64-bit | 6.0.1.6015 | 6015 |
| LAN Broadcom | Windows 7 | 12.4.0.3 | 12.4.0.3 |
| | Windows 7 64-bit | 12.4.0.3 | 12.4.0.3 |

Windows Logo Kits Used (WLK)

Microsoft website: <http://www.microsoft.com/whdc/DevTools/WDK/DTM.msp>

Please check regularly for test kit updates from Microsoft. Please ensure latest filters updated prior to WHQL run.

| Operating Systems | Notes | WHQL Testkit |
|--|--|--|
| Windows 7 32-bit Windows 7 64-bit | WLK1.5 for Windows 7 | WLK1.5 for Windows 7 |
| Windows Vista 32-bit Windows Vista 64-bit | WLK1.5 for Windows Vista SP2 | WLK1.5 for Windows Vista SP2 |

Errata and Contingencies

| Operating System | Failing Test | Expiry Date | ID Number | Type | Error Description |
|--|--|-------------|-----------|---------|---|
| Windows 7 Windows 7 64-bit Windows Vista Windows Vista 64-bit | 1) Class Driver AC3 Test - Win7 (System) 2) HDAudio Class Driver Test - Vista or Server08 (System) | 06/01/2010 | 1256 | Erratum | The HD Audio class driver hdaudio.sys exposes AC-3 data ranges on S/PDIF Kernel Streaming pins incorrectly. The compressed AC-3 transport is "stereo", "16-bit", and at the same sample rate as the uncompressed format. As such, AC-3 data ranges are expected to have MaximumChannels = 2, and MinimumBitDepth = MaximumBitDepth = 16. However, the HD Audio class driver sometimes incorrectly exposes a MaximumBitDepth of 24 or even 32. |
| Windows 7 Windows 7 64-bit Window Vista Windows Vista 64-bit | 1) Class Driver Fidelity Test - Win7 (System, Manual) 2) HDAudio Class Driver Fidelity Test-Vista (System, Manual) | 12/01/2010 | 1012 | Erratum | Fidelity uses too small of a buffer and wakes up too infrequently during the System Activity test. This causes errors like: Noise level during system activity on (left or right) channel 73.2016 dB: *** FAIL *** (requirement >= 80 dB) |
| Windows 7 Windows 7 64-bit Window Vista Windows Vista 64-bit | 1) Class Driver Fidelity Test - Win7 (System, Manual) 2) HDAudio Class Driver Fidelity Test-Vista (System, Manual) | 07/31/2011 | 598 | Erratum | The European Union requires the headphone output level to be <= 150 mVrms for headphone jacks. There's a note in WLP requirement AUDIO-0006 that states, in the presence of regional regulations, the output level requirement for headphones is dropped from >= 1000 mVrms to >= 120 mVrms. This provides freedom for manufacturers to meet both the EU <= 150 mVrms @ 32 Ohms and the WLP >= 120 mVrms @ 32 Ohms requirements. The Fidelity Test tests headphones at 300 Ohm load, though. Without knowledge of the output impedance at the jack, the test cannot extrapolate what the output level at 32 Ohms would have been from the output level at 300 Ohms. The test assumes that the output level at 32 Ohms will be *less* than the output level at 300 Ohms, though. So any measurement >= 120 mVrms at 300 Ohms "could be" a passing result, depending on the output impedance. |
| Windows 7 Windows 7 64-bit Window Vista Windows Vista 64-bit | 1) Class Driver Fidelity Test - Win7 (System, Manual) 2) HDAudio Class Driver Fidelity Test-Vista (System, Manual) 3) Fidelity Test (System, Manual) | 08/09/2010 | 1801 | Erratum | There is a test bug which causes the measurement of system noise during Render Power Transition Test to be about 3 dB worse than it should be. This filter forgives errors up to 6 dB. |

| | | | | | |
|---|---|------------|------|---------|---|
| Windows 7 Windows 7 64-bit Window Vista Windows Vista 64-bit | 1)UAA Test - Win7 (System) 2)UAA Test - Vista or Server08 (System) | 08/09/2010 | 1198 | Erratum | "High Definition Audio Device" devices need to comply with the Intel High Definition Audio spec, as well as revisions (known as Document Change Notifications, or DCNs.) One such DCN - in particular, DCN 34-A2 - clarified the behavior of "pin sense" verbs as applied to digital pins (S/PDIF, HDMI, and DisplayPort.) Prior to the DCN, the language of the spec was unclear and mistakenly implied that the "Impedance" bits could be used by digital pins. The DCN clarified this to say that Impedance bits are reserved for digital pins. |
| Windows 7 Windows 7 64-bit Window Vista Windows Vista 64-bit | 1)UAA Test - Win7 (System) 2)UAA Test - Vista or Server08 (System) | 08/09/2010 | 1299 | Erratum | The original HD Audio 1.0 specification contains a notion of "presence detect", using electrical impedance which was intended to apply only to analog pins. However, the language of the specification was such that it could be read to apply to digital pins as well - in particular, to S/PDIF pins. A DCN was released to extend the notion of presence detect to digital pins - in particular, to HDMI pins. This repurposed one of the impedance bits, which were thought to be unused in digital pins, to mean "ELD valid." The correct way for a S/PDIF pin to respond to a Pin Sense verb is to set the highest bit (Presence Detect) to 1 or 0 corresponding to whether a S/PDIF connection is active; set the ELD Valid bit to 0 (since there is no such thing as ELD for S/PDIF); and set the rest of the bits, which are reserved for digital pins, to 0. This errata filter is a preview filter to allow hardware manufacturers time to update any hardware that used the impedance bits on digital pins. |
| Windows 7 Windows 7 64-bit Window Vista Windows Vista 64-bit | 1)UAA Test - Win7 (System) 2)UAA Test - Vista or Server08 (System) | 07/01/2011 | 1466 | Erratum | Preview Filter: UAA Test - Intel Low Power DCN says "EPSS implies KeepAlive, but only after July 1st 2011" |
| Windows 7 Windows 7 64-bit Window Vista Windows Vista 64-bit | 1)UAA Test - Win7 (System) 2)UAA Test - Vista or Server08 (System) | 06/01/2010 | 1300 | Erratum | HD Audio pin configuration document calls out setting Port Connectivity to No Connection as the way to turn a pin off in a particular system. UAA Test incorrectly tests such pins. |
| Windows 7 Windows 7 64-bit Window Vista Windows Vista 64-bit | 1)UAA Test - Win7 (System) 2)UAA Test - Vista or Server08 (System) | 06/01/2010 | 513 | Erratum | UAA Test requires the Traffic Priority bit to be read/write - however there are two specs that apply, and they conflict. One says the bit must be read/write, the other says it must be read-only. Contact has been made with the author of both specs (Intel) but until this point is clarified we cannot fail submissions containing this test failure. |

Test Notes

| Operating System | Test | Description |
|---------------------------------------|---------------|---|
| Windows 7 and Vista | BIOS download | Internal: http://bios.intel.com/downloads/ External: http://www.intel.com/ click on Support and Download |
| Windows 7 and Vista | BIOS setup | Please make sure the BIOS setting are as below, otherwise use default settings. System Date and Time: Current date and time Peripheral Configuration: Enable all onboard component (Except CIR) Drive Configuration: Set to IDE Chipset Configuration: Enable HPET ACPI Suspend State: Set to <S3 State> Boot Device Priority: set <Hard Disk Driver> to first Note: Enhanced Consumer IR (CIR) component is not supported under Windows7. |
| Windows 7 and Vista filter update | WLK WHQL test | http://winqual.microsoft.com/member/SubmissionWizard/LegalExemptions/filterupdates.cab |
| Special H/W that use to PASS the test | None | None |