Motherboard Logo Program (MLP)

Intel® Desktop Board DG41TY

MLP Report

8/11/2009

Purpose:

This report describes the DG41TY 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.mspx
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&g=s

Desktop Board Configuration

Desktop Board DG41TY 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)
DG41TY	TYG4110H.86A.0024.2009.0324.1324	N/A - all technologies logo'd
Processor		
Speed	3.0GHz	
Family	Intel® Core™2 Quad	
Bus Speed	1333 MHz	
Motherboard		
Board AA #	E47335	
Board FAB #	204	
* 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, DDR2, 800MHz	
Memory Type	DIMM	
Connector Type	DDR2, 240 Pin	
Power Management		
BIOS Default	S3	
Operating System Tested		
	Check Tested	**Comments**
Windows 7 and 64-bit	☑	Windows 7 Ultimate
Windows Vista and 64-bit	☑	Vista Ultimate with Service Pack 1
Windows Vista Basic and 64-bit	☐	Vista Basic with Service Pack 1

[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**	9.0.0.1009	9.0.0.1009
	Windows Vista 64-bit	9.0.0.1009	9.0.0.1009
Graphics Intel® Graphics Media Accelerator	**Windows Vista**	7.15.10.1576	15.11.3.1576
	Windows Vista 64-bit	7.15.10.1576	15.11.3.64.1576
Audio Realtek	**Windows Vista**	6.0.1.5717	5717
	Windows Vista 64-bit	6.0.1.5717	5717
LAN Realtek	**Windows Vista**	6.210.1003.2008	6.210
	Windows Vista 64-bit	6.210.1003.2008	6.210

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**	6.1.7229.0	Inbox Driver
	Windows 7 64-bit	6.1.7229.0	Inbox Driver
Graphics Intel® Graphics Media Accelerator	**Windows 7**	8.15.10.1808	15.15.0.1808
	Windows 7 64-bit	8.15.10.1808	15.15.64.1808
Audio Realtek	**Windows 7**	6.1.7229.0	Inbox Driver
	Windows 7 64-bit	6.1.7229.0	Inbox Driver
LAN Realtek	**Windows 7**	7.3.522.2009	7.003
	Windows 7 64-bit	7.3.522.2009	7.003

Windows Logo Kits Used (WLK)

Microsoft website: http://www.microsoft.com/whdc/DevTools/WDK/DTM.mspx

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 Windows 7 64-bit	WLK1.4 for Windows 7	WLK1.4 for Windows 7
Windows Vista Windows Vista 64-bit	WLK1.4 for Windows Vista SP1	WLK1.4 for Windows Vista SP1

Errata and Contingencies

Operating System	Failing Test	Expiry Date	ID Number	Type	Error Description
Window 7 Window 7 64-bit	1)AC3 Test (System) 2)Class Driver AC3 Test – Win7 (System)	06/01/2010	1572	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	1)Class Drive Fidelity Test - Win7 (System, Manual) 2)Fidelity Test - Win7 (System, Manual)	12/31/2009	1547	Erratum	Fidelity Test now includes a "Render Power Transition" test. This preview filter covers all errors in this new test of SYSFUND-0050.
Window 7 Window 7 64-bit	1)Class Drive Fidelity Test - Win7 (System, Manual) 2)Fidelity Test - Win7 (System, Manual)	12/01/2009	1670	Erratum	EU restrictions place a cap on the output level of headphone jacks at 32 Ohm load: headphones are not allowed to have an electrical output of more than 150 mV at that load. We test headphone jacks at 300 Ohm load; the relationship between the output at 32 Ohms and the output at 320 Ohms depends on the output impedance of the headphone jack. In particular, if a headphone jack meets the EU requirement of X <= 150 mV at 32 Ohms, depending on the output impedance, it could output a huge amount of power at 300 Ohms, or very slightly over X mV. Since we require X >= 120 mV at 32 Ohms, absent knowledge of the output impedance we can only require X >= 120 mV at 300 Ohms. 120 mV is -18.42 dBV. Any headphone output level at 32 Ohms that is less than -18.42 dBV is a legitimate failure, even if it is targeted at EU compliance. Any headphone output level greater than 1 Vrms (0.707 Vrms for mobile systems) is a legitimate pass, regardless of EU compliance. This errata covers output level failures for headphone jacks between -18.42 dBV and 1 Vrms/0 dBV (0.707 Vrms/-6.93 dBV for mobile systems)) in accordance with note 6 of the WLP fidelity requirements.
Window 7	Fidelity Test - Win7 (System, Manual)	12/01/2009	1417	Erratum	Fidelity Test includes a "System Activity Test" that verifies audio fidelity is not compromised during system activity. It uses an activity generator called rws.exe (Real World Stress) which has a bug that causes it to hit an access violation. When this happens it exits with return code 0xC00000005, or -1073741819.
Windows 7 Windows 7 64-bit	PCI Hardware Compliance Test For Systems	12/31/2009	759	Erratum	ISSUE: PCI Compliance - Bit range 11:10 (ASPM Support)in the Link Capabilities register (offset Ch) in the PCI Express Capability table must be read-only. RESOLUTION: The following PCI Compliance failure assertion is allowed 4D19D0E6-51CC-49CF-8459-31AAA0587E4B.

Windows 7 Windows 7 64-bit	PCI Hardware Compliance Test For Systems	12/31/2009	884	Erratum	Assertion 3EF27DC9-463F-4712-857B-0321832E7383 Bit range 23:0 (Organizationally Unique Identifier)in the Serial Number 1st DW register (offset 4h) in the Device Serial Number Capability table cannot have a value of 0h as it must contain a value assigned by IEEE.
Windows 7 Windows 7 64-bit	PCI Hardware Compliance Test For Systems	06/01/2010	1543	Erratum	This happens because the PCI Compliance test assumes that if the Data Link Layer Link Active Reporting Capable bit in the Link Capabilities register for a given PCIe port is set then that indicates that the Data Link Layer Link Active bit will also be set. This is an incorrect assumption because the Data Link Link Layer Link Active bit can be reset when there is no device below the port. This assertion needs to be removed from the PCIHCT. The current architecture of the PCIHCT prevents it from knowing whether devices exist below a bridge/port.
Windows 7 Windows 7 64-bit	UAA Test - Win7 (System)	12/01/2009	1394	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.
Windows 7 Windows 7 64-bit	UAA Test - Win7 (System)	12/01/2009	1507	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	UAA Test - Win7 (System)	07/09/2009	1531	Erratum	Intel has published Document Change Notifications (DCNs) to the High Definition Audio specification that specify new ways to expose HDMI audio devices. These are available here: http://www.intel.com/standards/hdaudio/ There are a number of HD Audio devices that were designed prior to these DCNs being released. These expose HDMI audio devices in accordance with the looser standard that was published at the time. UAA Test false-fails these devices under the stricter rules established by the DCNs.
Windows 7 Windows 7 64-bit	UAA Test - Win7 (System)	06/01/2010	1585	Erratum	AUDIO-0062, effective June 1 2009, requires that any HD Audio codec that advertises EPSS support comply with the Intel HD Audio Low Power DCN.

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