



Motherboard Logo Program (MLP)

Intel® Desktop Board DG43NB

MLP Report

9/25/2009

Purpose:

This report describes the DG43NB 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 DG43NB 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)
DG43NB	NBG4310H.86A.0086.2009.0618.1749	N/A - all technologies logo'd
Processor		
Speed	3.0GHz	
Family	Intel® Core™2 Quad	
Bus Speed	1333 MHz	
Motherboard		
Board AA #	E34877	
Board FAB #	402	
* 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	<input checked="" type="checkbox"/>	Windows 7 Ultimate
Windows Vista and 64-bit	<input checked="" type="checkbox"/>	Vista Ultimate with Service Pack 1
Windows Vista Basic and 64-bit	<input type="checkbox"/>	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	7.15.10.1537	15.11.3.1537
	Windows Vista 64-bit	7.15.10.1537	15.11.3.64.1537
Audio Realtek	Windows Vista	6.0.1.5605	5605
	Windows Vista 64-bit	6.0.1.5605	5605
LAN Intel® PRO Network Connections	Windows Vista	9.52.9.0	13.1.1
	Windows Vista 64-bit	9.52.9.0	13.1.1
MEI Intel® Management Engine Interface	Windows Vista	5.0.1.1055	5.0.0.1081
	Windows Vista 64-bit	5.0.1.1055	5.0.0.1081

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	9.1.1.1015	9.1.1.1015
	Windows 7 64-bit	9.1.1.1015	9.1.1.1015
Graphics Intel® Graphics Media Accelerator	Windows 7	8.15.10.1808	15.15.1.1808
	Windows 7 64-bit	8.15.10.1808	15.15.1.1808
Audio Realtek	Windows 7	6.0.1.5892	5892
	Windows 7 64-bit	6.0.1.5892	5892
LAN Intel® PRO Network Connections	Windows 7	10.0.6.0	14.2
	Windows 7 64-bit	10.0.6.0	14.2
MEI Intel® Management Engine Interface	Windows 7	5.2.0.1008	5.2.0.1018
	Windows 7 64-bit	5.2.0.1008	5.2.0.1018

Windows Logo Kits Used (WLK)

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

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

Operating Systems	Notes	WHQL Testkit
Windows Vista Windows Vista 64-bit	WLK1.4 for Windows Vista SP1	WLK1.4 for Windows Vista SP1
Windows 7 Windows 7 64-bit	WLK1.4 for Windows 7	WLK1.4 for Windows 7

Errata and Contingencies

Operating System	Failing Test	Expiry Date	ID Number	Type	Error Description
Windows 7 Windows 7 64-bit	Class Driver AC3 Test - Win 7 (System)	06/01/2010	1572	Erratum	<p>The HD Audio class driver hdaudio.sys exposes AC-3 data ranges on S/PDIF Kernel Streaming pins incorrectly.</p> <p>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.</p> <p>However, the HD Audio class driver sometimes incorrectly exposes a MaximumBitDepth of 24 or even 32.</p>
Windows 7 Windows 7 64-bit	1) Class Driver Fidelity Test - Win7 (System, Manual) 2) Fidelity Test - Win7 (System, Manual)	12/31/2009	1547	Erratum	<p>Fidelity test now enforces SYSFUND-0050 - pop/click suppression is required to avoid noise during power state transitions.</p>
Windows 7 Windows 7 64-bit	Class Driver Fidelity Test - Win7 (System, Manual)	12/1/2009	1670	Erratum	<p>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.</p> <p>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.</p> <p>In particular, if a headphone jack meets the EU requirement of $X \leq 150$ 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 $X \geq 120$ mV at 32 Ohms, absent knowledge of the output impedance we can only require $X \geq 120$ mV at 300 Ohms.</p> <p>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.</p> <p>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.</p>
Windows 7 Windows 7 64-bit	Class Driver Round Trip Test - Win7 (System, Manual)	11/1/2009	1709	Erratum	<p>This test case is in preview mode for WLK 1.4. It will be enforced in November 2009.</p>
Windows 7 Windows 7 64-bit	PCI Hardware Compliance Test For Systems	12/31/2009	385	Erratum	<p><u>The following PCI Compliance test failure is acceptable: Bit 15 (Bridge Configuration Retry Enable) in the Device Control register (offset 8h) in the PCI Express Capability table must be read-only and always return 0 as it is reserved for devices other than PCI Express to PCI/PCI-X Bridges. Assertion 13A41D3E-2576-41DC-A67C-525DA3637CEA This failure is acceptable because this is a PCIe 1.1 feature and the WLP requires compliance with only PCIe 1.0a.</u></p>

Operating System	Failing Test	Expiry Date	ID Number	Type	Error Description
Windows 7 Windows 7 64-bit	PCI Hardware Compliance Test For Systems	12/31/2009	759	Erratum	Assertion 5CAF4993-B8D1-4E4E-99EC-CC5895364E32 Bit range 11:10 (ASPM Support) in the Link Capabilities register (offset Ch) in the PCI Express Capability table is 0h. It cannot be in the set of values {0x0, 0x2}.
Windows 7 Windows 7 64-bit	PCI Hardware Compliance Test For Systems	06/01/2010	1543	Erratum	Assertion 0E36472A-0EDB-4685-A67D-7AF1FFBFA81B Data Link Layer Link Active Reporting Capable bit is set but Data Link Layer Link Active is not.
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	<p>Preview Filter - Reserved "Impedance" bits in Pin Sense response to digital pin widgets</p> <p>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.</p> <p>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."</p> <p>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.</p> <p>This errata filter is a preview filter to allow hardware manufacturers time to update any hardware that used the impedance bits on digital pins.</p>
Windows 7 Windows 7 64-bit	UAA Test - Win7 (System)	07/01/2011	1793	Erratum	<p>Preview Filter - Keepalive on low power digital outputs</p> <p>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.</p> <p>The Low Power DCN, in turn, says that support for EPSS is mandatory after July 1st 2011.</p>
Windows 7 Windows 7 64-bit	UAA Test - Win7 (System)	06/01/2010	1794	Erratum	<p>UAA Test wrongly tests pin widgets that have their Configuration Default register's Port Connectivity field set to No Connection.</p> <p>The Microsoft HD Audio Pin Configuration guidelines specifically call out "set Port Connectivity to No Connection" as the official way to turn a pin off. UAA Test should ignore any such pins, as will the Microsoft HD Audio class driver.</p>

Operating System	Failing Test	Expiry Date	ID Number	Type	Error Description
Windows 7 Windows 7 64-bit	Wave Test - Win7 (System)	06/01/2010	1584	Erratum	WaveTest false-fails DEVICE_STATE_DISABLED endpoints like CD In and Stereo Mix. This is because it only considers DEVICE_STATE_ACTIVE endpoints when attempting to decide whether communications-class requirements should apply.

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 settings 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