



Motherboard Logo Program (MLP)

**Intel® Desktop Board**

**DG41CN**

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**MLP Report**

3/24/2011

**Purpose:**

This report describes the DG41CN Motherboard Logo Program testing run conducted by Intel Corporation.

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# Introduction

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## Terms and Definitions

Term	Definitions
WHQL	Windows* Hardware Qualification Lab
WLK	Windows Logo Kits
MLP	Motherboard Logo Program. For further information see: <a href="http://www.microsoft.com/whdc/hwtest/default.msp">http://www.microsoft.com/whdc/hwtest/default.msp</a>
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: <a href="http://winqual.microsoft.com/HCL/ProductList.aspx?m=v&amp;cid=105&amp;q=s">http://winqual.microsoft.com/HCL/ProductList.aspx?m=v&amp;cid=105&amp;q=s</a>

# Desktop Board Configuration

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## Desktop Board DG41CN Final Configuration Report: Completion of MLP

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

### Board Information

Product Code <sup>1</sup>	BIOS String/Model	Technologies NOT Logo'd (yet)
DG41CN	CNG4110H.86A.0012.2009.1223.1420	N/A - all technologies logo'd
<b>Processor</b>		
Speed	3.00 GHz	
Family	Intel® Core(TM)2 Quad CPU Q9650	
Bus Speed	1333Mhz	
<b>Motherboard</b>		
Board AA #	E82429	
Board FAB #	100	
* 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.		
<b>System Memory</b>		
Speed	Dual Channel, DDR2, 800MHz	
Memory Type	DIMM	
Connector Type	DDR2, 240 Pin	
<b>Power Management</b>		
BIOS Default	S3	
<b>Operating System Tested</b>		
	<b>Check Tested</b>	<b>Comments</b>
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 2
Windows Vista Basic and 64-bit	<input type="checkbox"/>	Vista Basic with Service Pack 2

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<sup>1</sup> 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	9.1.1.1019	9.1.1.1019
	Windows Vista 64-bit	9.1.1.1019	9.1.1.1019
Graphics Intel(R) G41 Express chipset	Windows Vista	7.15.10.1908	15.13.6.1908
	Windows Vista 64-bit	7.15.10.1908	15.13.6.64.1908
Audio Realtek HD Audio	Windows Vista	6.0.1.6013	6013
	Windows Vista 64-bit	6.0.1.6013	6013
LAN Realtek PCIe GBE Family Controller	Windows Vista	6.227.902.2009	6.227
	Windows Vista 64-bit	6.227.902.2009	6.227

## 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	9.1.1.1019	9.1.1.1019
	Windows 7 64-bit	9.1.1.1019	9.1.1.1019
Graphics Intel(R) G41 Express chipset	Windows 7	8.15.10.1883	15.15.5.1883
	Windows 7 64-bit	8.15.10.1883	15.15.5.64.1883
Audio Realtek HD Audio	Windows 7	6.0.1.6013	6013
	Windows 7 64-bit	6.0.1.6013	6013
LAN Realtek PCIe GBE Family Controller	Windows 7	7.6.820.2009	7.006
	Windows 7 64-bit	7.6.820.2009	7.006

## 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 Vista Windows Vista 64-bit	<a href="#">WLK1.5 for Windows Vista SP2</a>	<a href="#">WLK1.5 for Windows Vista SP2</a>
Windows 7 Windows 7 64-bit	<a href="#">WLK1.5 for Windows 7</a>	<a href="#">WLK1.5 for Windows 7</a>

## 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 Drive AC3 Test - Win7 (System)  2)HDAudio Class Driver Test - Vista or Server08 (System)	6/1/2010	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 Vista Windows Vista 64-bit	GlitchFree WMV HD 720p video playback quality test	03/08/2010	1245	Erratum	SYSFUND-0062 Case 2 and 3 were added to enhance the verification of the video playback test. These cases will be in preview state until this errata expires. If cases 2 or 3 of the GFHD test fail for any reason while this errata is active, then the failures should be filtered out. Cases 0 and 1 do not apply to this errata and remain a requirement.
Windows 7 Windows 7 64-bit Windows Vista Windows Vista 64-bit	PCI Hardware Compliance Test For Systems	12/1/2010	423	Erratum	Assertion 5CAFA993-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 Windows Vista Windows Vista 64-bit	PCI Hardware Compliance Test For Systems	6/1/2010	1241	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 Windows Vista Windows Vista 64-bit	1) Fidelity Test (System, Manual)  2) HDAudio Class Driver Fidelity Test- Vista (System, Manual)  3) Class Driver Fidelity Test - Win7 (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 Windows Vista Windows Vista 64-bit	1) HDAudio Class Driver Fidelity Test- Vista (System, Manual)  2) Class Driver Fidelity Test - Win7 (System, Manual)	07/31/2011	598	Erratum	The European Union requires the headphone output level to be $\leq 150$ 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 $\geq 1000$ mVrms to $\geq 120$ mVrms. This provides freedom for manufacturers to meet both the EU $\leq 150$ mVrms @ 32 Ohms and the WLP $\geq 120$ 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 $\geq 120$ mVrms at 300 Ohms "could be" a passing result, depending on the output impedance.
Windows 7 Windows 7 64-bit Windows Vista Windows Vista 64-bit	1)UAA Test - Win7 (System)  2)UAA Test - Vista or Server08 (System)	6/1/2010	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: <a href="http://bios.intel.com/downloads/">http://bios.intel.com/downloads/</a> External: <a href="http://www.intel.com/">http://www.intel.com/</a> 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 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
Windows 7 and Vista filter update	WLK WHQL test	<a href="http://winqual.microsoft.com/member/SubmissionWizard/LegalExemptions/filterupdates.cab">http://winqual.microsoft.com/member/SubmissionWizard/LegalExemptions/filterupdates.cab</a>
Special H/w that use to PASS the test	None	None