



Motherboard Logo Program (MLP)

Intel® Desktop Board

DP43BF

MLP Report

3/24/2011

Purpose:

This report describes the DP43BF 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 DP43BF 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)
DP43BF	RKG4310H.86A.0070.2010.0212.1856	N/A - all technologies logo'd
Processor		
Speed	3.33GHz	
Family	Intel® Core™2 Duo	
Bus Speed	1333 MHz	
Motherboard		
Board AA #	E78171	
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 and 64-bit	<input checked="" type="checkbox"/>	Windows 7 Ultimate
Windows 7 and 32-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 and 32-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	9.1.1.1024	9.1.1.1024
	Windows Vista 64-bit	9.1.1.1024	9.1.1.1024
Graphics ATI: Radeon 3450 256M	Windows Vista	8.650.0.0	8.650.0.0
	Windows Vista 64-bit	8.650.0.0	8.650.0.0
Audio Realtek ALC888	Windows Vista	6.0.1.6015	6.0.1.6015
	Windows Vista 64-bit	6.0.1.6015	6.0.1.6015
LAN Broadcom 57788	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	9.1.1.1024	9.1.1.1024
	Windows 7 64-bit	9.1.1.1024	9.1.1.1024
Graphics NVIDIA: Geforce 9800GT	Windows 7	8.16.11.9107	8.16.11.9107
	Windows 7 64-bit	8.16.11.9107	8.16.11.9107
Audio Realtek ALC888	Windows 7	6.0.1.6015	6.0.1.6015
	Windows 7 64-bit	6.0.1.6015	6.0.1.6015
LAN Intel® PRO Network Connections	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 Windows 7 64-bit	WLK1.5 for Windows 7	WLK1.5 for Windows 7
Windows Vista 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 Vista Windows Vista 64 Windows 7 Windows 7 64	PCI Hardware Compliance Test For Systems	12/01/2010	385	Erratum	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.
Windows Vista Windows Vista 64 Windows 7 Windows 7 64	PCI Hardware Compliance Test For Systems	06/01/2010	1543	Erratum	Data Link Layer Link Active Reporting Capable bit is set but Data Link Layer Link Active is not.
Windows Vista Windows Vista 64 Windows 7 Windows 7 64	1 UAA Test - Vista or Server08 (System) 2 UAA Test - Win7 (System)	Preview Filter	2371	Erratum	<p>This Preview Test or Test Case is being filtered until the expiration date of this Errata. After the expiration date of this filter these failures must be fixed to have a passing submission. Microsoft strongly recommends that these errors be investigated prior to this test or job being required for submission.</p> <p>Errata 1198 Preview Filter - Reserved "Impedance" bits in Pin Sense response to digital pin widgetsThe 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> <p>For further details visit: https://winqual.microsoft.com/ec/</p>

Windows Vista Windows Vista 64 Windows 7 Windows 7 64	1 UAA Test - Vista or Server08 (System) 2 UAA Test - Win7 (System)	06/01/2010	2190	Erratum	UAA Test wrongly tests pin widgets that have their Configuration Default register's Port Connectivity field set to No Connection. 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.
Windows Vista Windows Vista 64 Windows 7 Windows 7 64	1 UAA Test - Vista or Server08 (System) 2 UAA Test - Win7 (System)	07/01/2011	2195	Erratum	Preview Filter - Keepalive on low power digital outputs 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. The Low Power DCN, in turn, says that support for EPSS is mandatory after July 1st 2011. http://www.intel.com/design/chipsets/hdaudio.htm http://download.intel.com/design/chipsets/hdaudio/HDA015-B.pdf Note the sentence "KeepAlive Enable is mandatory after July 1st 2011, if EPSS is reported set to 1."
Windows Vista Windows Vista 64 Windows 7 Windows 7 64	1 UAA Test - Vista or Server08 (System) 2 UAA Test - Win7 (System)	06/01/2010	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 Vista Windows Vista 64 Windows 7 Windows 7 64	1 Fidelity Test - Vista (System, Manual) 2 HDAudio Class Driver Fidelity Test - Vista (System, Manual) 3 Class Driver Fidelity Test - Win7 (System, Manual)	08/09/2010	2562	Erratum	Fidelity Render Power Transition test does not work properly. The test is not going to be enforced until a fix can be released.
Windows Vista Windows Vista 64 Windows 7 Windows 7 64	1 HDAudio Class Driver Fidelity Test - Vista (System, Manual) 2 Class Driver Fidelity Test - Win7 (System, Manual)	12/01/2010	1424	Erratum	Fidelity plays a quiet (-60 dB FS) test tone during System Activity test which is filtered out of the noise level measurement. However, Fidelity is quite prone to glitches during system activity... the glitches leak into the measured noise, causing false failures.

<p>Windows Vista Windows Vista 64 Windows 7 Windows 7 64</p>	<p>1 HDAudio Class Driver Test - Vista or Server08 (System) 2 Class Driver AC3 Test - Win7 (System)</p>	<p>06/01/2010</p>	<p>1890</p>	<p>Erratum</p>	<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>
<p>Windows Vista Windows Vista 64 Windows 7 Windows 7 64</p>	<p>1 UAA Test - Vista or Server08 (System) 2 UAA Test - Win7 (System)</p>	<p>08/09/2010</p>	<p>2365</p>	<p>Erratum</p>	<p>Preview filter - Jack Detect Override on digital pin widgets</p> <hr/> <p>The HD Audio configuration default register (7.3.3.31 in the HD Audio specification) includes a "Jack Detect Override" flag that can be used to indicate that although a pin widget would normally be capable of jack detection, there is something about this particular system that causes this to be impossible.</p> <p>This was intended to be used, for example, for analog pin widgets that are connected to RCA jacks, which do not allow for impedance detection.</p> <p>Some digital pin widgets are using the Presence Detect pin sense response to indicate that a digital handshake has occurred - indeed, HDMI pins have entire DCNs built around this concept, and it applies equally well to S/PDIF pins.</p> <p>A digital converter that supports presence detection should be able to do so in any system, so the "Jack Detect Override" concept should not apply to digital pins.</p>
<p>Windows Vista Windows Vista 64 Windows 7 Windows 7 64</p>	<p>1 HDAudio Class Driver Fidelity Test - Vista (System, Manual) 2 Class Driver Fidelity Test - Win7 (System, Manual)</p>	<p>07/31/2011</p>	<p>1670</p>	<p>Erratum</p>	<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>

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 AHCI 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