Motherboard Logo Program (MLP)

Intel® Desktop Board

DQ43AP

MLP Report

3/30/2011

Purpose:

This report describes the DQ43AP Motherboard Logo Program testing run conducted by Intel Corporation.

Contents

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 DQ43AP Final Configuration Report: Completion of MLP

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

Board Information

Product Code¹	BIOS String/Model	Technologies NOT Logo'd (yet)
DQ43AP	APQ4310H.86A.0024.2009.0410.1430	N/A - all technologies logo'd
Processor		
Speed	3.00GHz	
Family	Intel® Core™2 Quad	
Bus Speed	1333 MHz	
Motherboard		
Board AA #	E60578	
Board FAB #	202	
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

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[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**	9.0.0.1011	9.0.0.1011
	Windows Vista 64-bit	9.0.0.1011	9.0.0.1011
Graphics Intel® Graphics Media Accelerator	**Windows Vista**	7.15.10.1666	15.12.4.1666
	Windows Vista 64-bit	7.15.10.1666	15.12.4.64.1666
Audio Realtek	**Windows Vista**	6.0.1.5798	5798
	Windows Vista 64-bit	6.0.1.5798	5798
LAN Intel® PRO Network Connections	**Windows Vista**	10.4.19.0	13.5
	Windows Vista 64-bit	10.4.19.0	13.5
MEI Intel® Management Engine Interface	**Windows Vista**	5.0.1.1055	5.1.0.1167
	Windows Vista 64-bit	5.0.1.1055	5.1.0.1167
iAMT Intel® Active Management Technology	**Windows Vista**	5.5.0.1057	5.1.0.1167
	Windows Vista 64-bit	5.5.0.1057	5.1.0.1167

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	8.15.10.1855	15.15.0.1855
	Windows 7 64-bit	8.15.10.1855	15.15.3.64.1855
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	11.0.41.0	14.2
	Windows 7 64-bit	11.0.41.0	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
iAMT Intel® Active Management Technology	Windows 7	5.5.1.1012	5.2.0.1018
	Windows 7 64-bit	5.5.1.1012	5.2.0.1018

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	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.
Window 7 64-bit	Class Driver AC3 Test – Win7 (System)	06/01/2010	1890	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	Class Driver 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 0xC0000005, or -1073741819.
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	Fidelity Test now includes a "Render Power Transition" test. This preview filter covers all errors in this new test of SYSFUND-0050.

Windows 7 Windows 7 64-bit	Class Driver 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.
Windows 7 Windows 7 64-bit Windows Vista Windows Vista 64-bit	PCI Hardware Compliance Test For Systems PCI Hardware Compliance Test For Systems Running Windows Vista (PCIHCT)	12/31/2009	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 7 Windows 7 64-bit Windows Vista Windows Vista 64-bit	UAA Test - Win7 (System) UAA Test-Vista(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.
Window Vista Window Vista 64-bit	1) Fidelity Test (System, Manual) 2) HDAudio Class Driver Fidelity Test (System, Manual)	6/1/2009	1418	Erratum	Fidelity is false-failing captured signals with high DC offset. Relevant error message is "Test signal not detected on channel (#). Base frequency is 0.something Hz; expected 997-ish Hz."
Window Vista Window Vista 64-bit	HDAudio Class Driver Fidelity Test (System, Manual))	6/1/2009	1402	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.

Window Vista Window Vista 64-bit	HDAudio Class Driver Test (System)	6/1/2009	1384	Erratum	WaveTest: HDMI Audio devices not required to support 44100 Hz 16 bit stereo. This filter looks for the "44100 not supported" error on devices whose pins call themselves HDMI, and passes that test case.
Windows Vista Windows Vista 64-bit	PCI Hardware Compliance Test For Systems Running Windows Vista (PCIHCT)	12/31/2009	481	Erratum	ISSUE: PCI Compliance - Message Upper Address register of the MSI Capability table must be read-writable for 64 bit address capable devices. RESOLUTION: The following PCI Compliance test assertion failure is allowed DDC2C294-795E-4587-AF61-33F70362C2AF.
Windows Vista Windows Vista 64-bit	UAA Test-Vista(System	6/1/2009	1400	Erratum	Intel has published a draft of changes to the HD Audio Specification. One change allows pins to advertise themselves as HDMI sources. This makes a "reserved flags must be 0" error in the UAA Test suspect. According to the official audio spec, bit 7 of the PinCaps register is reserved and should not be set. The draft adds HDMI support which uses this bit to indicate "this pin supports HDMI out." The errata will only apply to bit 7; there are other reserved PinCaps bits that should still be reserved.

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