

# P5 Verification Test Report

Release No : 09I010025

Product Model	<b>AIS-Q452</b>
Description	Intel Q45 Mini-ITX System
Test Configuration	<input checked="" type="checkbox"/> New product <input checked="" type="checkbox"/> CPU Board : IMBI-Q45 Rev.A1.0 <input checked="" type="checkbox"/> BIOS : AIS-Q452 BIOS Rev A1.0 (09/25/2009) <input checked="" type="checkbox"/> Carrier Board : N/A <input checked="" type="checkbox"/> Riser Card: PER-R06X A0.1 <input checked="" type="checkbox"/> Chipset : <input checked="" type="checkbox"/> CPU : Intel Core 2 Duo E4300 @ 1.8GHz – 800MHz FSB <input checked="" type="checkbox"/> North Bridge : Intel Q45 <input checked="" type="checkbox"/> South Bridge : ICH10DO <input checked="" type="checkbox"/> VGA Chipset : Intel Q45 Express Chipset <input checked="" type="checkbox"/> Audio Chipset : Realtek ALC888 <input checked="" type="checkbox"/> Ethernet Chipset : LAN1: Intel 82567LM LAN2: Intel 82574L <input checked="" type="checkbox"/> I/O Chipset : ITE IT8718F <input checked="" type="checkbox"/> TV Chipset : N/A <input checked="" type="checkbox"/> SDVO : N/A  <input checked="" type="checkbox"/> Remark : QE NPDP P5 Report for AIS-Q452
<b>Test Result Summary</b>	
<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> Pass with Deviation  Comment: _____ _____	

2009/12/25

Issue date

Wenyuan Yang

Manager

Anderson Lin

Test Engineer

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There are 3 test results in this document; they are described as follows:

**Pass:** Function worked perfectly

**Fail:** Function failed and must be modified in the next version

**N/A:** Outside of specification or no test equipment

## Platform Information:

Item	Device Information
System	AIS-Q452
PCB Model / Version	IMBI-Q45. Rev. A1.0
BIOS / Version	AIS-Q452 BIOS Rev A1.0 (09/25/2009)
CPU Type	Intel Core 2 Duo E4300 @ 1.8GHz – 800MHz FSB
Memory Type	DSL DDR3 1066 2GB CL7 *2
SATA	3.5" SATA HDD Western Digital WD800AAJS-00PSA0 80 GB
CRT	ViewSonic E653
LCD	N/A
Compact Flash	N/A
Backplane	N/A
Riser Card	PER-R06X V0.1
Expansion Board	N/A
Operating System	Fedora Core 11
	Windows XP Professional English Version Service Pack 3
Power Supply	ATX Power Supply : Onboard Channel Well PSM275H

## Test Result for Certification

### 1. I/O Peripheral Function Test

I/O Function	Result			Note
	Pass	Fail	N/A	
Floppy Connector / Driver A:			X	
Primary IDE Master			X	
Primary IDE Slave			X	
Secondary IDE Master			X	
Secondary IDE Slave			X	
Third IDE Master			X	
Third IDE Slave			X	

RAID 0 Function Test	X			
RAID 1 Function Test	X			
SATA1 / Serial ATA Connector 1	X			
SATA2 / Serial ATA Connector 2	X			
SATA3 / Serial ATA Connector 3	X			
SATA4 / Serial ATA Connector 4	X			
Compact Flash – Type I			X	
Compact Flash – Type II			X	
DOC (Disk On Chip)			X	
DOM (Disk On Module) – 40 Pin			X	Transcend / TS512MDOM40V / 512MB / IDE 40 Pin
DOM (Disk On Module) – 44 Pin			X	Transcend / TS512MDOM44V / 512MB / IDE 44 Pin
COM 1-232	X			
COM 2-232	X			
PS/2 Mouse & Keyboard (External)	X			
Audio Connector	X			
Audio 5.1 Channel			X	
USB 1/2 Ports	X			
USB 3/4 Ports	X			
USB 5/6 Ports	X			
USB 2.0 1/2 Ports	X			
USB 2.0 3/4 Ports	X			
USB 2.0 5/6 Ports	X			
DVI Function	X			
DIO Connector			X	
Card Bus			X	
PC/104			X	
PC/104-Plus			X	
PCI-104			X	
CD-In Connector			X	
TFT TTL LCD			X	
TFT LVDS LCD			X	
TV-out / S Terminal			X	
TV-out / AV Terminal			X	
Touch Screen – 8 Wire			X	
Touch Screen – 4/5 Wire			X	

DIMM Slots	X			
Watchdog IRQ n			X	
Watchdog Software Control	X			
FAN Connector	X			
FAN2 Connector	X			
Express card			X	
Speaker Connector			X	
LCD Backlight Power Connector			X	
DC in Connector			X	
PCI Express Mini Card			X	
Power Button			X	
Battery Connector			X	
SDVO Connector			X	
LCD Inverter Connector			X	
Front Panel	Result			Notes
	Pass	Fail	N/A	
Power On Button			X	
IDE LED			X	
External Buzzer			X	
On Board Buzzer			X	
Power LED			X	
Reset Switch			X	
Keyboard Lock			X	
Jumpers Function	Result			Notes
	Pass	Fail	N/A	
LCD Inverter Voltage selection			X	JP1, JP7
COM2 +12V/+5V/RING Selection			X	JP3, JP5
LCD Voltage selection			X	JP2
Clear CMOS	X			JP4
AT/ATX Power Mode Selection			X	JP6
Power Connector & Function	Result			Notes
	Pass	Fail	N/A	
Standard AT Power Connector			X	
Standard ATX Power Connector	X			
5V Only Power Connector			X	
DC Adapter			X	

LAN Connector & Function		Result			Notes
		Pass	Fail	N/A	
LAN Link / Speed LED	LAN1	X			
	LAN2	X			
LAN Active LED	LAN1	X			
	LAN2	X			
LAN 10/100 Ethernet		X			
LAN 1G Ethernet		X			
PCI Connector & Function		Result			Notes
		Pass	Fail	N/A	
Mini PCI Slot				X	
PCI Slot		X			
PCI Express x1		X			
PCI Express x4		X			
PCI Express x16		X			
Express card				X	

## 2. Timer Accuracy Test

System Clock & RTC Clock Test				
Test Method	Margin for error	Result		
		Pass	Fail	N/A
System Clock in Power On Mode	±3 second during 24 hours	X		
RTC Clock in Power On Mode	±3 second during 24 hours	X		
RTC Clock in Power Off Mode	±3 second during 24 hours	X		
Watchdog Timer Test		Result		
		Pass	Fail	N/A
Time-out Interval	10 sec	X		
	60 sec	X		
	255 sec	X		

#### 4. Network HUB / LAN Connection Test

Location		LED Type				Result		
						Pass	Fail	N/A
LAN 1 LED		Active LED				X		
		Link LED				X		
LAN 2 LED		Active LED				X		
		Link LED				X		
LAN 1	Speed	HUB Type	Cable Length	HUB Speed	Onboard LAN Speed	Result		
		D-Link DGS-1008T	100M	1GBps	1G	Pass	Fail	N/A
		Accton DeskTop-3005	100M	100 MBps	100	X		
		SVEC FD916H (10 Mbps HUB)	100M	10 MBps	10	X		
LAN 2	Speed	HUB Type	Cable Length	HUB Speed	Onboard LAN Speed	Result		
		D-Link DGS-1008T	100M	1GBps	1G	Pass	Fail	N/A
		Accton DeskTop-3005	100M	100 MBps	100	X		
		SVEC FD916H (10 Mbps HUB)	100M	10 MBps	10	X		

## 5. Hardware Compatibility

CPU Compatible Test							
CPU Type		FSB	Prime95 Version	Result			
				Pass	Fail	N/A	
Intel Core™ 2 Duo CPU E4300@1.8GHz		800	V25.90	X			
Memory Compatibility Test							
Memory Brand	Memory Chipset	Frequency	Size	MemTest86 Version	Result		
					Pass	Fail	N/A
DSL	ELPIDA – J1108BABG-DJ-E	1066	2GB	V3.5	X		
DSL	ELPIDA – J1108BABG-DJ-E	1066	2GB	V3.5	X		
Audio Basic Function Test					Result		
System Sound					X		
CD_In							X
CD_In Sound Recorder							X
Play Sound Recorder					X		
Line Out					X		
Line In					X		
Line In Sound Record					X		
MIC Speaker			Dynamic		X		
			Condenser		X		
MIC Sound Recorder			Dynamic		X		
			Condenser		X		
Audio 5.1 Channel with S/P DIF Function Test					Result		
2-channel mode for stereo speaker output					X		
4-channel mode for 4 speaker output							X
6-channel mode for 5.1 speaker output							X
S/P DIF function Test			Input				X
			Output				X
On Board TV Function Test					Result		
NTSC		AV Terminal					X
PAL							X
NTSC		S Terminal					X
PAL							X
On Board LCD Function Test							



TFT LCD	Type	Voltage	Result		
			Pass	Fail	N/A
LVDS	Data Image 7" / 800*480 / 18bit (16:9)	3.3V			X
	AUO G065VN01 V.0 / 6.5" / 640x480 / 18bit (4:3)	3.3V			X
	AUO G065VN01 V.0 / 6.5" / 640x480 / 24bit (4:3)	3.3V			X
	AU B104SN02 / 10.4" / 800*600 / 18bit (4:3)	3.3V			X
	AU G150XG01 V.0 / 15" / 1024*768 / 18bit (4:3)	3.3V			X
	AU M150XN07 V.2 / 15" / 1024x768 / 24bit (4:3)	3.3V			X
	AU M170EG01 / 17" / 1280*1024 / 48bit (4:3)	5V			X
	Toshiba LTD12EX1S / 1280*768 / 18bit	3.3V			X
	AU M170XW01 V.1 / 17" / 1280x768 / 24bit (16:9)	5V			X
	AUO T260XW02 / 26" / 1366x768 / 24bit	5V			X
	AUO M190PW01 V0 / 19" / 1440x900 / 48 bit	5V			X
	AU M201UN02 V.5 / 20.1" / 1600x1200x48bit	5V			X
	AUO T370HW01 / 37" / 1920x1080 / 48bit	26V			X
	TTL	Toshiba LTM10C209A / 10.4" / 640*480 / 18bit (4:3)	5V		
NEC NL8060AC31-12 / 12.1" / 800*600 / 18bit (4:3)		3.3/5V			X
Sharp LQ121S1DG11 / 12.1" / 800*600 / 18bit (4:3)		3.3V			X
LG LM151X2-C2TH / 15.1" / 1024x768 / 18bit (4:3)		3.3V			X
Fujitsu FLC38XGC6V-06 / 15" / 1024*768 / 36bit (4:3)		5V			X

**PCI Slot Function (PCI Adapter Card) Test**

Model	Type	Result		
		Pass	Fail	N/A
CHAINTECH NVIDIA GeForce4 MX440-8X	VGA Card	X		
Creative Sound BLASTER Live5.1	Sound Card	X		
ADAPTEC 1420SA RoHS 4-Port SATA II RAID	SATA Adapter Card	X		
Intel GD82559 10/100 Mbps Fast Ethernet Adapter	Adapter LAN Card	X		

**ISA Slot Function Test**

	Result		
	Pass	Fail	N/A
Creative CT4170 Sound Blaster Sound Card			X
Adaptec AHA-1510/20/22B SCSI Card			X

**PCI-Express Function Test**

Model	Result		
	Pass	Fail	N/A
(PCI-Express x1) Syskonnect SK-9E21D 10 / 100/1000 Base-T Adapter PCI-Express x1 LAN Card	X		
(PCI-Express x4) Adaptec AAR-1430SA SATAII HostRAID Controllers PCI-Express x4 RAID Card	X		
(PCI-Express x16) ASUS EAX1600PRO/TD/256M/A PCI-Express x16 VGA Card	X		

**Mini PCI-Express Function Test**

Model	Result		
	Pass	Fail	N/A

Mini PCI-Express Test Card			X
<b>SATA HD Compatibility Test</b>			
<b>Model</b>	<b>Result</b>		
	<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
Seagate SATA 3.5 H.D – ST380815AS -80Gb	X		
FUJITSU 2.5" SATA MHY2080BH	X		
<b>CD/DVD-ROM Compatibility Test (USB DVD-ROM)</b>			
<b>Model</b>	<b>Result</b>		
	<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
ASUS DRW-1604P-D/WHT/G/ASUS	X		
LITEON DX-20A4PU USB DVD-ROM	X		
SONY USB2.0 DVD-R/W DRX-830UL	X		
<b>IDE Cable Function test</b>			
<b>IDE Model</b>	<b>Result</b>		
	<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
40 Pin Cable ATA66			X
44 Pin Cable ATA33			X
80 Pin Cable ATA100			X
<b>USB Function Test</b>			
<b>USB Basic Function Test</b>	<b>Result</b>		
	<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
USB Controller	X		
USB 2.0 Controller	X		
USB Keyboard Support	X		
USB Mouse Support	X		
<b>USB 1.1 Compatible Test</b>	<b>Result</b>		
	<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
USB 1.1 Compatible Test	X		
<b>USB 2.0 Compatible Test</b>	<b>Result</b>		
	<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
USB 2.0 Compatible Test	X		
<b>USB 2.0 Function Test</b>	<b>Result</b>		
	<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
LITEON DX-20A4PU USB-DVD ROM	X		
Kingston USB Device	X		
<b>USB Device Full Loading Test</b>			
<b>Model</b>	<b>Result</b>		
	<b>Pass</b>	<b>Fail</b>	<b>N/A</b>
Mitsumi FLL3.5 D353GUE/FUE			X
USB HDD 20GB			X
USB Card Reader			X

USB Mouse			X	
USB Thumb drive- Kingston 8Gb			X	
Floppy Disk Controller Function Test	Result			
	Pass	Fail	N/A	
Copy and compare file between C: and A / B:			X	
Change Floppy to None value			X	
Swap FDD			X	
Peripheral Compatibility-Storage Device				
Model	Interface	Result		
		Pass	Fail	N/A
FUJITSU MCB3064SS	SCSI		X	
IOMega ZIP 100 parallel port	Parallel		X	
IOMega ZIP100MB Internal ATAPI Drive	IDE		X	
DOC			X	
Type-I CF	Fix / PIO Mode		X	
Type-I CF	Fix / UDMA Mode		X	
Digital I/O Connector Test	Result			
	Pass	Fail	N/A	
Input Address: 2A1			X	
Output Address: 2A1			X	
VCC: (5V)			X	
DIO-1 Function Test			X	
DIO-2 Function Test			X	
Adapter Compatibility- Industry Control Card PC/104, PC/104+, PCI-104 Modules				
Interface	Model	Type	Result	
			Pass	Fail
PC/104	AAEON PCM-5600	Modem Module		X
	AAEON PCM-3115B	PCMCIA Module		X
PC/104+	AAEON PCM-3430	SCSI Module		X
PCI-104	AAEON PCM-FA00	Mini-PCI Converter		X
	AAEON PCM-3794	SCSI Module		X
	AAEON PCM-3730	Intel 82559 LAN Module		X
On-Board RAID Function Test				
Model	Interface	Result		
		Pass	Fail	N/A
Set SATA HDDs as RAID 0	SATA	X		
Set SATA HDDs as RAID 1	SATA	X		
Set SATA HDDs as RAID 10	SATA	X		
Set SATA HDDs as RAID 5	SATA	X		
COM Function Test	Result			
	Pass	Fail	N/A	
COM Port Burn In Test overnight		X		

<b>Disk On Module [DOM] Compatibility Test</b>				
Model	Interface	Result		
		Pass	Fail	N/A
Transcend / TS512MDOM40V / 512MB	IDE 40 Pin			X
Transcend / TS512MDOM44V / 512MB	IDE 44 Pin			X
<b>Mini PCI Card Compatibility Test</b>				
Model (Use PCI-104 transform board: MBC-1TM Rev.A1.0)	Interface	Result		
		Pass	Fail	N/A
PER-C10L Mini PCI LAN Card(Intel 82551QM)	LAN			X
GM-101 WLAN 11b/g 54Mbps Mini PCI Card (Model: VNT6655AM)	LAN			X
<b>COM/LPT Ports &amp; RS-232/422/485 Function Test</b>		Result		
		Pass	Fail	N/A
RS-422 for COM2				X
RS-485 for COM2				X
COM1		X		
COM2		X		
COM3				X
COM4				X
COM5				X
COM6				X
LPT1				X
<b>Card Bus(PCMCIA) Compatibility Function Test</b>				
Model	Result			
	Pass	Fail	N/A	
Intel PRO/Wireless 2011B LAN PC Card (WPC2011BWW)			X	
PQI 16MB Compact Flash Adapter (64MB PQI CF Card inserting)			X	
Kingston datapack DP-PCM2 / 2GB (PC Card TypeII HDD)			X	
PCi GW-NS54SG Cardbus Adapter Wireless LAN Type-II			X	

## 6. O.S. Compatibility Test

Installation Operation System Compatibility Test	Result		
	Pass	Fail	N/A
Windows XP Professional English Version Service Pack 3	X		

## 7. BIOS Function Test

Test Item	Result		
	Pass	Fail	N/A
Memory Beep Test			X
Standard CMOS Setup Test	X		
Boot Sequence Test	X		
<b>Power Management Test</b>			
APM Power Management Test	X		
ACPI Power Management Test	X		
Power On Function Test			X
Wake Up Event Test	X		
Power On after Power Failure Test			X
CMOS Backup / Clear CMOS Test	X		
Boot ROM Test (PXE)	X		
Supervisor / User Password Test	X		
Init Display First Function Test	X		
On-Chip Serial ATA Function Test			X
SATA Mode-IDE/RAID Function Test	X		
LPT Address / IRQ Test			X
BIOS AWDFLASH Program Test	X		

## 8. Performance Test

### Platform Information

System	AIS-Q452
PCB Model/Version	IMBI-Q45 Rev. A1.0
BIOS	AIS-Q452 BIOS Rev A1.0 (09/25/2009)
Operating System	Windows XP Professional Service Pack 3 V2002
CPU	Intel Core 2 Duo E4300 @ 1.8GHz – 800MHz FSB
Memory	DSL DDR3 1066 2GB CL7 *2

HDD	3.5" SATA HDD Western Digital WD800AAJS-00PSA0 80 GB
CRT	ViewSonic E653 15" CRT
LCD	NA
Compact Flash	NA
Chipset Software	Intel® ICH10 Family 2 ports Serial ATA Storage (5/1/2008 -- 9.0.0.1008)
Graphics Media	Intel® Q45/Q43 Express Chipset (3/25/2009 -- 6.14.10.5047)
LAN1 Driver	Intel 82567LM-3 Gigabit Network 10.4.19.0 (2008/10/24)
LAN2 Driver	Intel® Gigabit CT 10.3.49.400 (2008/12/11)
Audio Driver	Realtek High DefinitionALC 888 5.10.0.5854(5/15/2009 )
Touchscreen Driver	NA
Power Supply	ATX POWER Supply: Onboard Channel Well PSM275H

**Test result:**

Final Reality V1.01—BenchMark Test		
2D Image	41.74	
3D	4.38	
Bus transfer	96.50	
Overall	26.90	Reality marks
<b>3Dmark2001SE Pro</b>		
3DMark2001SE Build 330_Benchmark mode	7212	
<b>3Dmark2003 v360</b>		
3Dmark Score	2551	
CPU Score	502	
<b>PCMark2002</b>		
CPU	7085	
Memory	15436	
HDD	1681	
<b>PCMark05</b>		
PCMark	3925	
CPU	4624	
Memory	3949	
Graphics	1840	
HDD	5372	