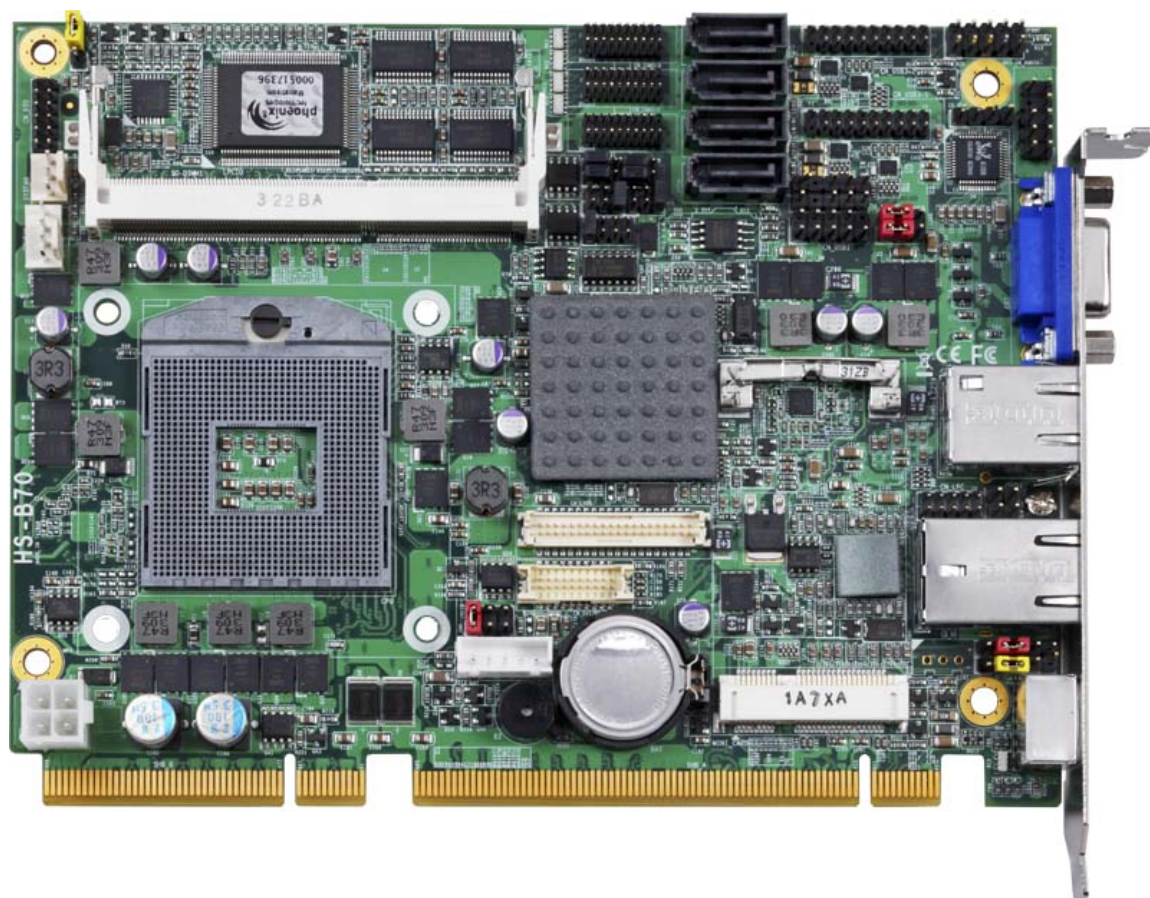


Product Test Report



Product Name	HS-B70
Product Version	A
Issued Date	2013.08.13
Report Edition	1.0
BIOS Version	1.0
Testing Engineer	PERRY
Check Engineer	PERRY

REVISION HISTORY

DATE	REVISION NO.	PAGE	DESCRIPTONS
2013.08.13	Ver. 1.0	76	Initial Release

Index

1. Function test	5
1.1 Hardware function.....	5
1.2 BIOS function	7
1.3 Driver	9
2. Compatibility test	13
2.1 CPU Test.....	13
2.2 Operation System Test	14
2.3 Memory Test	15
2.4 VGA Graphic Quality Test.....	16
2.5 Audio	17
2.6 HDD Test	20
2.7 CD-ROM Test	21
2.8 USB device Test	22
2.9 Serial Port Test	24
2.10 PS2 Keyboard 、 Mouse Test.....	27
2.11 LAN Test	29
2.12 Power Supply Test	31
2.13 PCI Express mini card	32
3. Environmental test	33
3.1 Temperature Test.....	33
3.2 Thermal measurements at various points on the board	36
4. Reliability Test	38
4.1 Power Consumption Test	38
5. Performance Test	46
5.1 Performance Test 8.0	46
5.2 3D MARK(2001 、 2003 、 2005)	51

5.3 3D MARK2006 54
5.4 PC MARK2002..... 57
5.5 PC MARK2004..... 60
5.6 PC MARK2005..... 63
5.7 AQUAMARK3 66
5.8 CINEBENCH 69
5.9 ZD CPUMARK 72
5.10 Storage Performance 74

1. Function test

1.1 Hardware function

Base Function Test

Item	Description	Result	Remark
1	Power Button	PASS	
2	Reset	PASS	
3	Power LED	PASS	
4	HDD LED	PASS	
5	SATA 1/2/3/4	PASS	
6	CN_ USB1	PASS	
7	CN_ USB3.0 - 1/2/3/4	PASS	
8	DDRIII 1/2	PASS	(ACPI 1600 8G)
9	CN_COM 1/2/3/4/5/6	PASS	(B&B & mouse)
10	VGA Port	PASS	
11	PS2	PASS	
12	CN_AUDIO	PASS	
13	CD_IN	PASS	
14	CN_DIO	PASS	(DOS)
15	CPUFAN	PASS	
16	SYSFAN	PASS	
17	MINI_CARD	PASS	(MPX-574D2)
18	CN_DVI/DP	PASS	
19	CN_LVDS	PASS	
20	CN_INV	PASS	
21	LAN 1/2	PASS	
22	IrDA	PASS	

23	RS422-485	PASS	
24	PCIE x16	PASS	<p>B7010:PCIE x16 : PX9500GT(VGA)</p> <p>PCIE x4 : PX9500GT(VGA)+轉接卡</p> <p>PCIE x1 : LAN Card</p> <p>B70F10: PCIE x16 : PX9500GT(VGA)</p> <p>PCIE x4 : PX9500GT(VGA)+轉接卡</p> <p>PCIE x1 : LAN Card</p>
25	PCIE x4	PASS	<p>B7010:PCIE x1 : LAN Card</p> <p>B70F10:PCIE x4 : PX9500GT(VGA)+轉接卡</p> <p>PCIE x1 : LAN Card</p>
26	PCIE x1	PASS	<p>B7010:PCIE x1(x4): LAN Card</p> <p>B70F10:PCIE x1(x1): LAN Card</p>

Jumper

Item	Description	Result
1	JRTC	PASS
2	JCSEL1	PASS
3	JCSEL2	PASS
4	JVLCD	PASS
5	JAT	PASS

1.2 BIOS function

Item	Description	Result	Remark
1	Press 'Del' to run Setup Utility	PASS	
2	Ctrl-Alt-Del – Soft-Reboot	PASS	
3	Save & Exit Setup	PASS	
4	Date & Time Setting	PASS	
5	NumLock	PASS	
6	Quick Boot	PASS	
7	Diagnostic Splash Screen	PASS	
8	Diagnostic Summary Screen	PASS	
9	Console Redirection	PASS	
10	Error Manager	PASS	
11	Active Processor Cores	PASS	
12	Intel(R) HT Technology	PASS	
13	SATA Device	PASS	
14	Interface Combination	PASS	(IDE ∨ AHCI ∨ RAID ∨)
15	Max TOLUD	PASS	
16	DVMT Total Gfx Mem	PASS	
17	Boot Type	PASS	(CRT ∨ DVI ∨ LVDS ∨)
18	LCD Panel Type	PASS	(1280x1024)
19	Panel Color Depth	PASS	(24Bit)
20	USB Per-Port Disable Control	PASS	
21	Azalia	PASS	
22	PCH Internal LAN	PASS	
23	LAN OPROM Selection	PASS	82579LM ∨ 82574L ∨
24	Wake on PCH LAN	PASS	

25	Intel(R) AMT	PASS	
26	Serial Port	PASS	
27	IR Func.	PASS	
28	Watch Dog Timer	PASS	
29	Power Loss	PASS	Power on √ Power off √
30	CPU Warning Temp	PASS	50°C
31	CPU Fan Feature	PASS	Target Temp 50°C Tolerance Temp 1°C
32	Power On By RTC Alarm	PASS	
33	Set Supervisor Password	PASS	
34	Set User password	PASS	
35	S3(Stand by) Wake on	PASS	

1.3 Driver

CD Edition : IPCI5-1.0

1. Windows XP SP2 32-bit driver test

Item	Description	Result	version
1	Chipset Driver	PASS	9.3.0.1011
2	VGA Driver	PASS	6.14.10.5421
3	Audio Driver	PASS	5.10.0.6083
4	LAN Driver	PASS	82579LM : 11.15.12.0 82574L : 11.14.48.0

2. Windows XP SP2 64-bit driver test

Item	Description	Result	version
1	Chipset Driver	PASS	9.3.0.1011
2	VGA Driver	PASS	6.14.10.5421
3	Audio Driver (Need UAA bus driver)	PASS	5.10.0.6083
4	LAN Driver	PASS	82579LM : 11.15.12.0 82574L : 11.14.48.0

3. Windows Server 2003 32-bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	9.3.0.1011
2	Audio Driver	PASS	5.10.0.6083
3	LAN Driver	PASS	82579LM : 11.15.12.0 82574L : 11.14.48.0

4. Windows Server 2003 64-bit driver test

Item	Description	Result	Version
1	Chipset Driver	PASS	9.3.0.1011
2	Audio Driver	PASS	5.10.0.6083
3	LAN Driver	PASS	82579LM : 11.15.12.0 82574L : 11.14.48.0

5. Windows Vista 32-bit driver test

Item	Description	Result	version
1	Chipset Driver	PASS	9.3.0.1011
2	VGA Driver	PASS	9.17.10.2875
3	Audio Driver	PASS	6.0.1.6662
4	LAN Driver	PASS	82579LM : 12.2.45.0 82574L : 11.17.27.0

6. Windows Vista 64-bit driver test

Item	Description	Result	version
1	Chipset Driver	PASS	9.3.0.1011
2	VGA Driver	PASS	9.17.10.2875
3	Audio Driver	PASS	6.0.1.6662
4	LAN Driver	PASS	82579LM : 12.2.45.0 82574L : 11.17.27.0

7. Windows Server 2008 32-bit driver test

Item	Description	Result	version
1	Chipset Driver	PASS	9.3.0.1011
2	VGA Driver	PASS	9.17.10.2875
3	Audio Driver	PASS	6.0.1.6662
4	LAN Driver	PASS	82579LM : 12.2.45.0 82574L : 11.17.27.0

8. Windows Server 2008 64-bit driver test

Item	Description	Result	version
1	Chipset Driver	PASS	9.3.0.1011
2	VGA Driver	PASS	9.17.10.2875
3	Audio Driver	PASS	6.0.1.6662
	LAN Driver	PASS	82579LM : 12.2.45.0 82574L : 11.17.27.0

9. Windows 7 32-bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	9.3.0.1011
2	VGA Driver	PASS	9.17.10.2875
3	Audio Driver	PASS	6.0.1.6662
4	LAN Driver	PASS	82579LM : 12.2.45.0 82574L : 11.17.27.0
5	USB 3.0 Driver	PASS	1.0.5.235

10. Windows 7 64-bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	9.3.0.1011
2	VGA Driver	PASS	9.17.10.2875
3	Audio Driver	PASS	6.0.1.6662
4	LAN Driver	PASS	82579LM : 12.2.45.0 82574L : 11.17.27.0
5	USB 3.0 Driver	PASS	1.0.5.235

2. Compatibility test

2.1 CPU Test

Test environment:

OS Windows XP professional SP2

Test program : PC MARK 2005

Spec Code	CPU Speed	Family	Processor	DMI	Smart Cache	Result
<u>SR0NP</u>	2.30 GHz	Core	i7-3610QE	5 GT/s	6 MB	PASS
<u>SR02U</u>	2.50 GHz	Core	i5-2510E	5 GT/s	3 MB	PASS
<u>SR0MZ</u>	2.50 GHz	Core	i5-3210M	5 GT/s	3 MB	PASS
<u>SR02V</u>	2.20 GHz	Core	i3-2330E	5 GT/s	3 MB	PASS
<u>SR0WM</u>	2.40 GHz	Core	i3-3120ME	5 GT/s	3 MB	PASS

2.2 Operation System Test

Item	Description	Result	Remark
1	Windows 7 64-bit	PASS	
2	Windows 7 32-bit	PASS	
3	Windows Server 2008 64-bit	PASS	
4	Windows Server 2008 32-bit	PASS	
5	Windows Vista 64-bit	PASS	
6	Windows Vista 32-bit	PASS	
7	Windows XP SP2 64-bit	PASS	
8	Windows XP SP2 32-bit	PASS	
9	Windows Server 2003 64-bit	PASS	
10	Windows Server 2003 32-bit	PASS	
11	Ubuntu 12.04 alternate amd64	PASS	
12	Ubuntu 12.04 desktop amd64	PASS	
13	Debian-6.0.2.1-i386	PASS	Set AHCI

2.3 Memory Test

Test environment:

OS Windows XP professional SP2

Test program : PC MARK 2005

Manufacturer	Chip	Frequency	Capacity Mbytes	Result
ADATA	ELPIDA J1108BDBG-DJ-F	DDR3 1066	1 GB	PASS
ADATA	ADATA 3CCD-1211A EL1226V	DDR3 1600	4 GB	PASS
ADATA	SEC 813 HCF8 K4B1G0846D	DDR3 1066	2 GB	PASS
ADATA	SEC 813 HCF8 K4B1G0846D	DDR3 1066	1 GB	PASS
Transcend	SEC 813 HCF8 K4B1G0846D	DDR3 1066	1 GB	PASS
Transcend	SEC 813 HCF8 K4B1G0846D	DDR3 1066	2 GB	PASS
ACPI	hynix H5TC4G83AFR	DDR3 1600	8 GB	PASS
ACPI	hynix H5TQ2G83EFR	DDR3 1600	4 GB	PASS
ACPI	hynix H5TQ2G83EFR	DDR3 1600	2 GB	PASS
Kingston	Kingston D1288JPSFGD9U	DDR3 1333	2 GB	PASS
Kingston	Kingston D2568JPTCPGD9U	DDR3 1333	4 GB	PASS

2.4 VGA Graphic Quality Test

Test environment:

OS Windows XP professional SP2 32/64-bit

Driver version : 6.14.10.5421

Resolution	Color	Result	Remark
800*600	16 / 32bit	PASS	
1024*768	16 / 32bit	PASS	
1152*864	16 / 32bit	PASS	
1280*600	16 / 32bit	PASS	
1280*720	16 / 32bit	PASS	
1280*768	16 / 32bit	PASS	
1280*800	16 / 32bit	PASS	
1280*960	16 / 32bit	PASS	
1280*1024	16 / 32bit	PASS	
1360*768	16 / 32bit	PASS	
1366*768	16 / 32bit	PASS	
1400*1050	16 / 32bit	PASS	
1440*900	16 / 32bit	PASS	
1600*900	16 / 32bit	PASS	
1680*1050	16 / 32bit	PASS	
1920*1080	16 / 32bit	PASS	

2.5 Audio

Test environment:

OS Windows XP professional SP2 32-bit

Driver version : 5.10.0.6083

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	CDIN	PASS	

OS Windows XP professional SP2 64-bit

Driver version : 5.10.0.6083

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	CDIN	PASS	

OS Windows Server 2003 32-bit

Driver version : 5.10.0.6083

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	CDIN	PASS	

OS Windows Server 2003 64-bit

Driver version : 5.10.0.6083

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	CDIN	PASS	

OS Windows Vista 32 bit

Driver version : 6.0.1.6662

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	CDIN	PASS	

OS Windows Vista 64 bit

Driver version : 6.0.1.6662

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
4	CDIN	PASS	

OS Windows Server 2008 32-bit

Driver version : 6.0.1.6662

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	CDIN	PASS	

OS Windows Server 2008 64-bit

Driver version : 6.0.1.6662

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	CDIN	PASS	

OS Windows 7 32-bit

Driver version : 6.0.1.6662

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	CDIN	PASS	

OS Windows 7 64-bit

Driver version : 6.0.1.6662

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	CDIN	PASS	

2.6 HDD Test

Test environment:

OS Windows XP professional SP2

Model	Interface	Capacity	Size Detect	Data Transfer
Western Digital WD10EALX-009BA0	SATA	1.0 TB	PASS	PASS
Western Digital WD3200BEKT-00F3T0	SATA	320 GB	PASS	PASS
Western Digital WD2500AAKS-00VYA0	SATA	250 GB	PASS	PASS
Intel SSD 330 Series SSDSC2CT060A3	SATA	60 GB	PASS	PASS

2.7 CD-ROM Test

Test environment:

OS Windows 7 professional SP1

Model	Interface	Detect	Data Transfer	Play CD
PIONEER DVD DDVR-S19LBK	SATA	PASS	PASS	PASS
ASUS DRW-24D1ST	SATA	PASS	PASS	PASS
BUFFALD DVSM-PC58U2VB	USB	PASS	PASS	PASS
LITEON DVD ETAU108	USB	PASS	PASS	PASS

2.8 USB device Test

1. Windows XP SP2 32/64-bit

Item	Result	Remark
External USB Keyboard Test	PASS	
External USB Mouse Test	PASS	
Hot plugging test	PASS	
CD ROM	PASS	
USB Mass storage	PASS	

2. Windows Server 2003 32/64-bit

Item	Result	Remark
External USB Keyboard Test	PASS	
External USB Mouse Test	PASS	
Hot plugging test	PASS	
CD ROM	PASS	
USB Mass storage	PASS	

3. Windows Vista 32/64-bit

Item	Result	Remark
External USB Keyboard Test	PASS	
External USB Mouse Test	PASS	
Hot plugging test	PASS	
CD ROM	PASS	
USB Mass storage	PASS	

4. Windows Server 2008 32/64-bit

Item	Result	Remark
External USB Keyboard Test	PASS	
External USB Mouse Test	PASS	
Hot plugging test	PASS	
CD ROM	PASS	
USB Mass storage	PASS	

5. Windows 7 32/64-bit

Item	Result	Remark
External USB Keyboard Test	PASS	
External USB Mouse Test	PASS	
Hot plugging test	PASS	
CD ROM	PASS	
USB Mass storage	PASS	
USB 3.0	PASS	

2.9 Serial Port Test

1. MS-DOS

Item	Description	Result	Remark
1	RS-422 & RS-485	PASS	
2	CHKIT	PASS	

2. Windows XP SP2 32-bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	RS-232 Mouse Test	PASS	
3	b&b com port test	PASS	

3. Windows XP SP2 64-bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	RS-232 Mouse Test	PASS	

4. Windows Server 2003 32-bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	RS-232 Mouse Test	PASS	
3	b&b com port test	PASS	

5. Windows Server 2003 64-bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	RS-232 Mouse Test	PASS	

6. Windows Vista 32-bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	RS-232 Mouse Test	PASS	

7. Windows Vista 64-bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	RS-232 Mouse Test	PASS	

8. Windows Server 2008 32-bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	RS-232 Mouse Test	PASS	
3	b&b com port test	PASS	

9. Windows Server 2008 64-bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	RS-232 Mouse Test	PASS	

10. Windows 7 32-bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	RS-232 Mouse Test	PASS	

11. Windows 7 64-bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	RS-232 Mouse Test	PASS	

2.10 PS2 Keyboard 、 Mouse Test

1. MS-DOS

Item	Description	Result	Remark
1	Keyboard LED Status Test	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

2. Windows XP SP2 32/64-bit

Item	Description	Result	Remark
1	Keyboard LED Status Test	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

3. Windows Server 2003 32/64-bit

Item	Description	Result	Remark
1	Keyboard LED Status Test	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

4. Windows Vista 32/64-bit

Item	Description	Result	Remark
1	Keyboard LED Status Test	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

5. Windows server 2008 32/64-bit

Item	Description	Result	Remark
1	Keyboard LED Status Test	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

6. Windows 7 32/64-bit

Item	Description	Result	Remark
1	Keyboard LED Status Test	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

2.11 LAN Test

Data Transfer Test environment:

-CAT 6 UTP 100M

-8 HR. continuous

1. Windows XP SP2 32/64-bit (82579LM)

32-bit driver version : 11.15.12.0 ; 64-bit driver version : 11.15.12.0

Item	Description	Result	Remark
1	Device Manager Check	PASS	(IPERF)
2	Data Transfer Test	PASS	(IPERF)

2. Windows Server 2003 32/64-bit (82579LM)

32-bit driver version : 11.15.12.0 ; 64-bit driver version : 11.15.12.0

Item	Description	Result	Remark
1	Device Manager Check	PASS	(IPERF)
2	Data Transfer Test	PASS	(IPERF)

3. Windows Vista 32/64-bit (82579LM)

32-bit driver version : 12.2.45.0 ; 64-bit driver version : 12.2.45.0

Item	Description	Result	Remark
1	Device Manager Check	PASS	(IPERF)
2	Data Transfer Test	PASS	(IPERF)

4. Windows Server 2008 32/64-bit (82579LM)

32-bit driver version : 12.2.45.0 ; 64-bit driver version : 12.2.45.0

Item	Description	Result	Remark
1	Device Manager Check	PASS	(IPERF)
2	Data Transfer Test	PASS	(IPERF)

5. Windows Server 7 32/64-bit (82579LM)

32-bit driver version : 12.2.45.0 ; 64-bit driver version : 12.2.45.0

Item	Description	Result	Remark
1	Device Manager Check	PASS	(IPERF)
2	Data Transfer Test	PASS	(IPERF)

2.12 Power Supply Test

Item	TYPE	Description	Result	Remark
1	ATX Power	SWITCHING POWER SUPPLY MC-B350ATX	PASS	
2	ATX Power	Snake 300W PT-300W	PASS	
3	ATX Power	Antec 350W EA-350 GREEN	PASS	
4	ATX Power	CORSAIR 650W CMPSU-650TXV2	PASS	

2.13 PCI Express mini card

Motherboard	PCI Express mini card	Result	Remark
HS-B70	MPX-827	PASS	Win7 x32 & XP x32
	MPX-24794G2	PASS	XP x32
	MPX-25858	PASS	Win7 x32 & XP x32
	MPX-TP4R	PASS	XP x32
	MPX-9125	PASS	Win7 x32
	MPX-3132	PASS	Win7 x32
	MPX-574D	PASS	Win7 x32 & XP x32
	MPX-574D2	PASS	Win7 x32 & XP x32
	MPX-643	PASS	Win7 x32 & XP x32
	MPX-954	PASS	Win7 x32 & XP x32
	MPX-954E	PASS	Win7 x32 & XP x32
	MPX-885	PASS	Win7 x32 & XP x32
	MPX-7202	PASS	Win7 x32 & XP x32
	MPX-5201	PASS	Win7 x32 & XP x32
	MPX-6864	PASS	Win7 x32 & XP x32
	MPX-SDVOD	PASS	Win7 x32 & XP x32
	mSATA	PASS	ACPI 32G

Note: 1. MPX-SDVOD needs OEM

(Add C421,C422(0.1UF) & Del C412,C413(0.01UF))

2. Use MPX-3132 install Win 7 or Win XP needs to into BIOS setting

=> Advanced => South Bridge Configuration

=> SB PCI Express Config

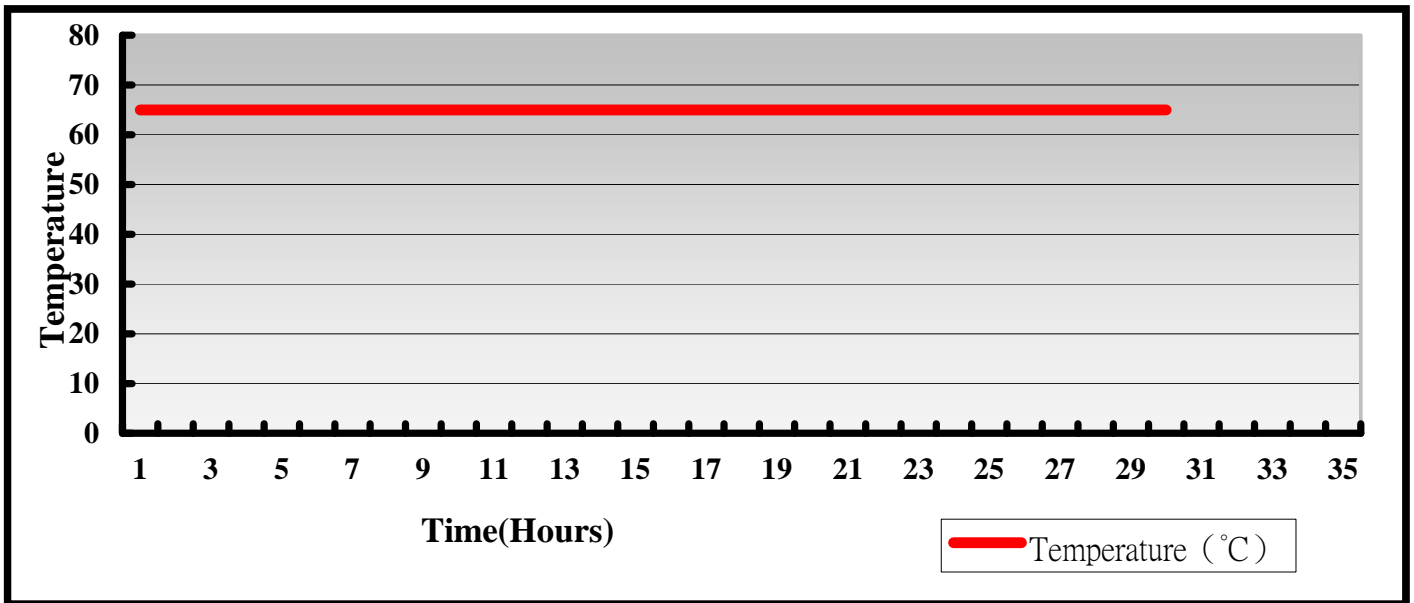
=> PCI Express Root Port 3 & PCI Express Root Port 4

=> PCIe Speed [Gen1]

3. Environmental test

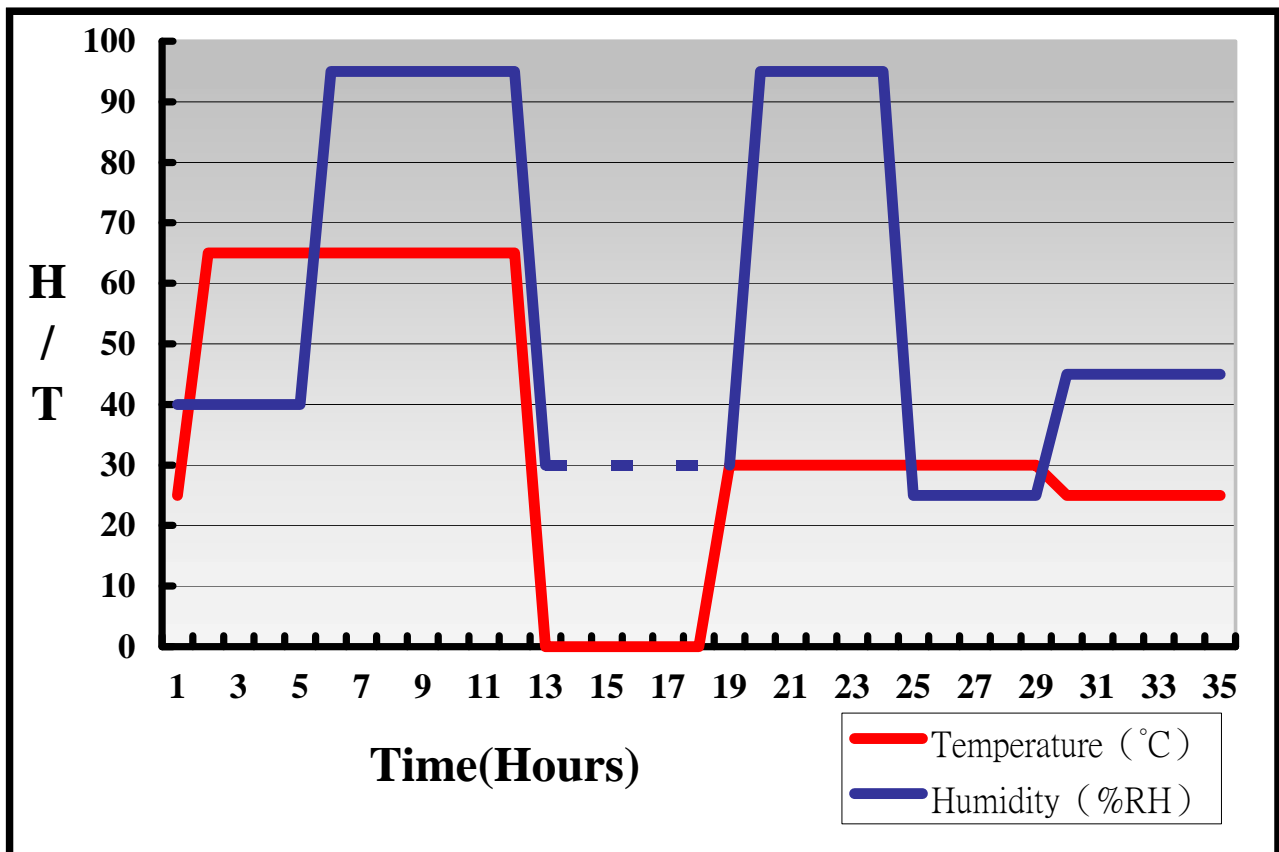
3.1 Temperature Test

System Board	HS-B70
CPU	Intel® Core™ i7-3610QE 2.30GHz
Memory	ACPI DDR3 1600 8GB (hynix H5TC4G83AFR)
HDD	Western Digital WD10EALX-009BA0 1.0TB
Operating OS	Windows XP
Test Equipment	GIANT FORCE (GTH-150-60-CP-AR)
Test Program	3DMark 2003+Prime95-266



Hardware Device list:

System Board	HS-B70
CPU	Intel® Core™ i7-3610QE 2.30GHz
Memory	ACPI DDR3 1600 8GB (hynix H5TC4G83AFR)
HDD	Western Digital WD10EALX-009BA0 1.0TB
Operating OS	Windows XP
Test Equipment	GIANT FORCE (GTH-150-60-CP-AR)
Test Program	3DMark 2003+Prime95-266



Definition : When the temperature is 30 degrees below arrive, humidity measurements have not, so by the dashed line express.

Boot Up Test:

Hardware Device list:

System Board	HS-B70
CPU	Intel® Core™ i7-3610QE 2.30GHz
Memory	ACPI DDR3 1600 8GB (hynix H5TC4G83AFR)
HDD	Western Digital WD10EALX-009BA0 1.0TB
Back Plan	1011-AA05E1-140 V1.1

Temperature	Result	Remark
65°C	PASS	50 Times
-25°C	PASS	50 Times

3.2 Thermal measurements at various points on the board

Test Environment :

CPU	Intel® Core™ i7-3610QE 2.30GHz
Memory	ACPI DDR3 1600 8GB (hynix H5TC4G83AFR)
HDD	Western Digital WD10EALX-009BA0 1.0TB
Power	POWER SUPPLY Antec 350W
Operating System	Windows XP SP2 32-bit
Test Program	3DMark 2003 + Prime 95-266

Test Result:

Item	Environmental temperature	28°C
1	CPU	71°C
2	PCH(QM77)	58.8°C
3	LPCIO	52.5°C
4	U9	53.8°C
5	U25	51.7°C
6	U26	51.3°C
7	U35	69.1°C
8	U38	52.9°C
9	C405	78.4°C
10	L2	57.7°C
11	Q19	58.5°C

4. Reliability Test

4.1 Power Consumption Test

1. Test Environment:

Motherboard	HS-B70
CPU	Intel® Core™ i7-3610QE 2.3GHz
Memory	ACPI DDR3 1600 8GB (hynix H5TC4G83AFR)
HDD	WD 10EALX-009BA0 (1.0TB)
Back Plan	1011-AA05E1-140 V1.1

Power Supply : Antec 350W

Voltage	MS-DOS Boot up		Win7(32Bit) 3DMARK 2003(once) + PRIME 95	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	2.78	33.36	6.14	73.68
5V	0.15	0.75	0.84	4.2
3.3V	0.15	0.495	0.15	0.495
5VSB	0.42	2.1	0.42	2.1

1. a. Test Environment:

The same as above but with LCD panel

Display Panel	AUO M170EG01 17"LCD
---------------	---------------------

Power Supply : Antec 350W

Voltage	MS-DOS Boot up		Win7(32Bit) 3DMARK 2003(once) + PRIME 95	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	4.62	55.44	8.95	107.4
5V	0.15	0.75	0.85	4.25
3.3V	0.15	0.495	0.16	0.528
5VSB	0.45	2.25	0.41	2.05

1. b. Test Environment:

The same as above but with PCI-E Graphics card

Graphics card	PX9500GT
---------------	----------

(A) Power Supply: Antec 350W

Voltage	MS-DOS Boot up		Win7(32Bit) 3DMARK 2003(once) + PRIME 95	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	4.62	55.44	9.38	112.56
5V	0.17	0.85	0.84	4.2
3.3V	0.31	1.023	0.35	1.155
5VSB	0.46	2.3	0.45	2.25

2. Test Environment:

Motherboard	HS-B70
CPU	Intel® Core™ i5-3210M 2.50GHz
Memory	ACPI DDR3 1600 8GB (hynix H5TC4G83AFR)
HDD	WD 10EALX-009BA0 (1.0TB)
Back Plan	1011-AA05E1-140 V1.1

Power Supply : Antec 350W

Voltage	MS-DOS Boot up		Win7(32Bit) 3DMARK 2003(once) + PRIME 95	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	2.01	24.12	4.47	53.64
5V	0.15	0.75	0.80	4
3.3V	0.15	0.495	0.15	0.495
5VSB	0.44	2.2	0.44	2.2

2. a. Test Environment:

The same as above but with LCD panel

Display Panel	AUO M170EG01 17"LCD
---------------	---------------------

Power Supply : Antec 350W

Voltage	MS-DOS Boot up		Win7(32Bit) 3DMARK 2003(once) + PRIME 95	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	3.74	44.88	6.38	76.56
5V	0.16	0.8	0.82	4.1
3.3V	0.16	0.528	0.15	0.495
5VSB	0.46	2.3	0.44	2.2

2. b. Test Environment:

The same as above but with PCI-E Graphics card

Graphics card	PX9500GT
---------------	----------

(A) Power Supply: Antec 350W

Voltage	MS-DOS Boot up		Win7(32Bit) 3DMARK 2003(once) + PRIME 95	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	3.17	38.04	6.34	76.08
5V	0.14	0.7	0.83	4.15
3.3V	0.30	0.99	0.32	1.056
5VSB	0.43	2.15	0.44	2.2

3.Test Environment:

Motherboard	HS-B70
CPU	Intel® Core™ i5-2510E 2.50GHz
Memory	ACPI DDR3 1600 8GB (hynix H5TC4G83AFR)
HDD	WD 10EALX-009BA0 (1.0TB)
Back Plan	1011-AA05E1-140 V1.1

Power Supply : Antec 350W

Voltage	MS-DOS Boot up		Win7(32Bit) 3DMARK 2003 + PRIME 95	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	2.53	30.36	4.81	57.72
5V	0.16	0.8	0.83	4.15
3.3V	0.16	0.528	0.15	0.495
5VSB	0.44	2.2	0.48	2.4

3.a.Test Environment:

The same as above but with LCD panel

Display Panel	AUO M170EG01 17”LCD
---------------	---------------------

Power Supply : Antec 350W

Voltage	MS-DOS Boot up		Win7(32Bit) 3DMARK 2003 + PRIME 95	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	4.63	55.56	6.86	82.32
5V	0.15	0.75	0.85	4.25
3.3V	0.15	0.495	0.15	0.495
5VSB	0.43	2.15	0.43	2.15

3. b. Test Environment:

The same as above but with PCI-E Graphics card

Graphics card	PX9500GT
---------------	----------

(A) Power Supply: Antec 350W

Voltage	MS-DOS Boot up		Win7(32Bit) 3DMARK 2003(once) + PRIME 95	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	4.36	52.32	6.1	73.2
5V	0.14	0.7	0.80	4
3.3V	0.30	0.99	0.33	1.089
5VSB	0.43	2.15	0.44	2.2

4. Test Environment:

Motherboard	HS-B70
CPU	Intel® Core™ i3-2330E 2.20GHz
Memory	ACPI DDR3 1600 8GB (hynix H5TC4G83AFR)
HDD	WD 10EALX-009BA0 (1.0TB)
Back Plan	1011-AA05E1-140 V1.1

Power Supply : Antec 350W

Voltage	MS-DOS Boot up		Win7(32Bit) 3DMARK 2003 + PRIME 95	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	2.42	29.04	5.06	60.72
5V	0.14	0.7	0.82	4.1
3.3V	0.14	0.462	0.14	0.462
5VSB	0.43	2.15	0.45	2.25

4. a. Test Environment:

The same as above but with LCD panel

Display Panel	AUO M170EG01 17"LCD
---------------	---------------------

Power Supply : Antec 350W

Voltage	MS-DOS Boot up		Win7(32Bit) 3DMARK 2003 + PRIME 95	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	4.31	51.72	6.88	82.56
5V	0.14	0.7	0.81	4.05
3.3V	0.15	0.495	0.15	0.495
5VSB	0.47	2.35	0.43	2.15

4. b. Test Environment:

The same as above but with PCI-E Graphics card

Graphics card	PX9500GT
---------------	----------

(A) Power Supply: Antec 350W

Voltage	MS-DOS Boot up		Win7(32Bit) 3DMARK 2003(once) + PRIME 95	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	3.87	46.44	6.88	82.56
5V	0.14	0.7	0.81	4.05
3.3V	0.29	0.957	0.35	1.155
5VSB	0.45	2.25	0.43	2.15

5. Performance Test

5.1 Performance Test 8.0

Windows 7 x32

WEIGHTED SUITE	Test Environment	Result	Remark
Performance Test 8.0	Intel® Core™ i7-3610QE 2.30GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB	PASS	Summary 1580 CPU Mark 5752 2D Graphics Mark 499.6 3D Graphics Mark 405.7 Memory Mark 1340 Disk Mark 861

Windows 7 x32

WEIGHTED SUITE	Test Environment	Result	Remark
<p>Performance Test 8.0</p>	<p>Intel® Core™ i5-3210M 2.50GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB</p>	<p>PASS</p>	<p>Summary 1365.9 CPU Mark 2907 2D Graphics Mark 469.6 3D Graphics Mark 396.6 Memory Mark 1304 Disk Mark 871</p>

Windows 7 x32

WEIGHTED SUITE	Test Environment	Result	Remark
<p>Performance Test 8.0</p>	<p>Intel® Core™ i5-2510E 2.5GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB</p>	<p>PASS</p>	<p>Summary 1139.8 CPU Mark 2383 2D Graphics Mark 422.2 3D Graphics Mark 277.9 Memory Mark 1199 Disk Mark 877</p>

Windows 7 x32

WEIGHTED SUITE	Test Environment	Result	Remark
<p>Performance Test 8.0</p>	<p>Intel® Core™ i3-2330E 2.20GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB</p>	<p>PASS</p>	<p>Summary 1032.8 CPU Mark 2100 2D Graphics Mark 345 3D Graphics Mark 267.9 Memory Mark 1065 Disk Mark 838</p>

Windows 7 x32

WEIGHTED SUITE	Test Environment	Result	Remark
<p>Performance Test 8.0</p>	<p>Intel® Core™ i3-3120ME 2.40GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB</p>	<p>PASS</p>	<p>Summary 1201.3 CPU Mark 2440 2D Graphics Mark 388.6 3D Graphics Mark 355.6 Memory Mark 1163 Disk Mark 837</p>

5.2 3D MARK(2001、2003、2005)

Windows XP SP2 32-bit

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Score	Intel® Core™ i7-3610QE 2.30GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB	PASS	17473
3DMARK2003 Score		PASS	6800
3DMARK2005 Score		PASS	6390

Windows XP SP2 32-bit

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Score	Intel® Core™ i5-3210M 2.50GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB	PASS	14717
3DMARK2003 Score		PASS	9153
3DMARK2005 Score		PASS	5958

Windows XP SP2 32-bit

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Score	Intel® Core™ i5-2510E 2.5GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB	PASS	13505
3DMARK2003 Score		PASS	7433
3DMARK2005 Score		PASS	5248

Windows XP SP2 32-bit

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Score	Intel® Core™ i3-2330E 2.20GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB	PASS	11900
3DMARK2003 Score		PASS	7251
3DMARK2005 Score		PASS	4879

Windows XP SP2 32-bit

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Score	Intel® Core™ i3-3120ME 2.40GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB	PASS	13186
3DMARK2003 Score		PASS	8291
3DMARK2005 Score		PASS	5382

5.3 3D MARK2006

Windows XP SP2 32-bit

Item	WEIGHTED SUITE	Test Environment	Result	Remark
1	3DMARK Score	Intel® Core™ i7-3610QE 2.30GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB	PASS	3642
2	SM2.0 Score		PASS	1068
3	HDR/SM3.0 Score		PASS	1502
4	CPU Score		PASS	5988

Windows XP SP2 32-bit

Item	WEIGHTED SUITE	Test Environment	Result	Remark
1	3DMARK Score	Intel® Core™ i5-3210M 2.30GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB	PASS	3294
2	SM2.0 Score		PASS	985
3	HDR/SM3.0 Score		PASS	1391
4	CPU Score		PASS	3460

Windows XP SP2 32-bit

Item	WEIGHTED SUITE	Test Environment	Result	Remark
1	3DMARK Score	Intel® Core™ i5-2510E 2.5GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB	PASS	2520
2	SM2.0 Score		PASS	803
3	HDR/SM3.0 Score		PASS	1016
4	CPU Score		PASS	2611

Windows XP SP2 32-bit

Item	WEIGHTED SUITE	Test Environment	Result	Remark
1	3DMARK Score	Intel® Core™ i3-2330E 2.20GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB	PASS	2452
2	SM2.0 Score		PASS	773
3	HDR/SM3.0 Score		PASS	993
4	CPU Score		PASS	2648

Windows XP SP2 32-bit

Item	WEIGHTED SUITE	Test Environment	Result	Remark
1	3DMARK Score	Intel® Core™ i3-3120ME 2.40GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB	PASS	2979
2	SM2.0 Score		PASS	900
3	HDR/SM3.0 Score		PASS	1261
4	CPU Score		PASS	2862

5.4 PC MARK2002

Test Environment
Intel® Core™ i7-3610QE 2.30GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2 32-bit

Item	Weighted Suite	Result	Remark
1	CPU Score	PASS	13901
2	Memory Score	PASS	55204
3	HDD Score	PASS	2731

Test Environment
Intel® Core™ i5-3210M 2.50GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2 32-bit

Item	Weighted Suite	Result	Remark
1	CPU Score	PASS	13125
2	Memory Score	PASS	47688
3	HDD Score	PASS	2847

Test Environment
Intel® Core™ i5-2510E 2.5GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2 32-bit

Item	Weighted Suite	Result	Remark
1	CPU Score	PASS	12465
2	Memory Score	PASS	38448
3	HDD Score	PASS	2793

Test Environment
Intel® Core™ i3-2330E 2.20GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2 32-bit

Item	Weighted Suite	Result	Remark
1	CPU Score	PASS	8980
2	Memory Score	PASS	30385
3	HDD Score	PASS	2837

Test Environment

Intel® Core™ i3-3120ME 2.40GHz
ACPI DDR3 1600 8GB (hynix H5TC4G83AFR)
Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2 32-bit

Item	Weighted Suite	Result	Remark
1	CPU Score	PASS	10232
2	Memory Score	PASS	38259
3	HDD Score	PASS	2764

5.5 PC MARK2004

Test Environment
Intel® Core™ i7-3610QE 2.30GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows XP PS2 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark Score	PASS	N/A
2	CPU Score	PASS	N/A
3	Memory Score	PASS	14806
4	Graphic Score	PASS	6349
5	HDD Score	PASS	7870

Test Environment
Intel® Core™ i5-3210M 2.50GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows XP PS2 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark Score	PASS	N/A
2	CPU Score	PASS	N/A
3	Memory Score	PASS	10863
4	Graphic Score	PASS	6067
5	HDD Score	PASS	8296

Test Environment
Intel® Core™ i5-2510E 2.5GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows XP PS2 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark Score	PASS	N/A
2	CPU Score	PASS	N/A
3	Memory Score	PASS	8466
4	Graphic Score	PASS	3866
5	HDD Score	PASS	8083

Test Environment
Intel® Core™ i3-2330E 2.20GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows XP PS2 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark Score	PASS	N/A
2	CPU Score	PASS	N/A
3	Memory Score	PASS	7227
4	Graphic Score	PASS	3744
5	HDD Score	PASS	8208

Test Environment

Intel® Core™ i3-3120E 2.40GHz
ACPI DDR3 1600 8GB (hynix H5TC4G83AFR)
Western Digital WD10EALX-009BA0 1.0TB

Windows XP PS2 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark Score	PASS	N/A
2	CPU Score	PASS	N/A
3	Memory Score	PASS	9385
4	Graphic Score	PASS	5038
5	HDD Score	PASS	8110

5.6 PC MARK2005

Test Environment
Intel® Core™ i7-3610QE 2.30GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark Score	PASS	8532
2	CPU Score	PASS	12063
3	Memory Score	PASS	10955
4	Graphic Score	PASS	4575
5	HDD Score	PASS	8116

Test Environment
Intel® Core™ i5-3210M 2.50GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark Score	PASS	7611
2	CPU Score	PASS	9657
3	Memory Score	PASS	9575
4	Graphic Score	PASS	4287
5	HDD Score	PASS	8802

Test Environment
Intel® Core™ i5-2510E 2.5GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark Score	PASS	6260
2	CPU Score	PASS	7698
3	Memory Score	PASS	8187
4	Graphic Score	PASS	3145
5	HDD Score	PASS	8569

Test Environment
Intel® Core™ i3-2330E 2.20GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark Score	PASS	5539
2	CPU Score	PASS	6661
3	Memory Score	PASS	6820
4	Graphic Score	PASS	2984
5	HDD Score	PASS	8707

Test Environment

Intel® Core™ i3-3120ME 2.40GHz
ACPI DDR3 1600 8GB (hynix H5TC4G83AFR)
Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark Score	PASS	6365
2	CPU Score	PASS	7720
3	Memory Score	PASS	8207
4	Graphic Score	PASS	3717
5	HDD Score	PASS	8620

5.7 AQUAMARK3

Test Environment
Intel® Core™ i7-3610QE 2.30GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	GFX	PASS	5592
2	CPU	PASS	18016
3	AquaMark3 TRISCORE	PASS	48416

Test Environment
Intel® Core™ i5-3210M 2.50GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	GFX	PASS	5346
2	CPU	PASS	15477
3	AquaMark3 TRISCORE	PASS	45594

Test Environment

Intel® Core™ i5-2510E 2.5GHz
ACPI DDR3 1600 8GB (hynix H5TC4G83AFR)
Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	GFX	PASS	5118
2	CPU	PASS	13990
3	AquaMark3 TRISCORE	PASS	43279

Test Environment

Intel® Core™ i3-2330E 2.20GHz
ACPI DDR3 1600 8GB (hynix H5TC4G83AFR)
Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	GFX	PASS	4371
2	CPU	PASS	11949
3	AquaMark3 TRISCORE	PASS	36957

Test Environment

Intel® Core™ i3-3120ME 2.40GHz
ACPI DDR3 1600 8GB (hynix H5TC4G83AFR)
Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	GFX	PASS	4434
2	CPU	PASS	13237
3	AquaMark3 TRISCORE	PASS	37981

5.8 CINEBENCH

Test Environment
Intel® Core™ i7-3610QE 2.30GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	OpenGL	PASS	8.91 fps
2	CPU	PASS	5.83 pts

Test Environment
Intel® Core™ i5-3210M 2.50GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	OpenGL	PASS	7.98 fps
2	CPU	PASS	2.71 pts

Test Environment

Intel® Core™ i5-2510E 2.5GHz
ACPI DDR3 1600 8GB (hynix H5TC4G83AFR)
Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	OpenGL	PASS	6.31 fps
2	CPU	PASS	1.95 pts

Test Environment

Intel® Core™ i3-2330E 2.20GHz
ACPI DDR3 1600 8GB (hynix H5TC4G83AFR)
Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	OpenGL	PASS	5.71 fps
2	CPU	PASS	1.99 pts

Test Environment

Intel® Core™ i3-3120ME 2.40GHz
ACPI DDR3 1600 8GB (hynix H5TC4G83AFR)
Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	OpenGL	PASS	7.39 fps
2	CPU	PASS	2.25 pts

5.9 ZD CPUMARK

Test Environment
Intel® Core™ i7-3610QE 2.30GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	SCORE	PASS	516

Test Environment
Intel® Core™ i5-3210M 2.50GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	SCORE	PASS	486

Test Environment

Intel® Core™ i5-2510E 2.5GHz
ACPI DDR3 1600 8GB (hynix H5TC4G83AFR)
Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	SCORE	PASS	473

Test Environment

Intel® Core™ i3-2330E 2.20GHz
ACPI DDR3 1600 8GB (hynix H5TC4G83AFR)
Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	SCORE	PASS	338

Test Environment

Intel® Core™ i3-3120ME 2.40GHz
ACPI DDR3 1600 8GB (hynix H5TC4G83AFR)
Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	SCORE	PASS	376

5.10 Storage Performance

5.10.1 HDD

Test environment:

OS Windows XP professional SP2

Program (HD Tune)

HDD Model	Interface	Capacity	Average	Burst Rate	Access time
Western Digital WD2500AAKS-00VYA0	SATA	250GB	63.0 MB/sec	144.8 MB/sec	12.5 ms
Western Digital WD10EALX-009BA0	SATA	1.0TB	97.5 MB/sec	217.0 MB/sec	15.2 ms
Intel SSD 330 Series SSDSC2CT060A3	SATA	60 GB	250.1 MB/sec	113.4 MB/sec	0.184 ms
USB 2.0 Flash Disk	USB	2 GB	15.3 MB/sec	15.6 MB/sec	7.59 ms
JetFlash Transcend	USB	16 GB	22.2 MB/sec	25.7 MB/sec	0.908 ms

OS Windows 7 (32Bit)

Program (HD Tune)

HDD Model	Interface	Capacity	Average	Burst Rate	Access time
Western Digital WD2500AAKS-00VYA0	SATA	250GB	63.0 MB/sec	139.1 MB/sec	12.5 ms
Western Digital WD10EALX-009BA0	SATA	1.0TB	84.6 MB/sec	178.9 MB/sec	14.7 ms
Intel SSD 330 Series SSDSC2CT060A3	SATA	60 GB	239.7 MB/sec	114.0 MB/sec	0.196 ms
USB 2.0 Flash Disk	USB	2 GB	16.2 MB/sec	16.5 MB/sec	0.513 ms
JetFlash Transcend	USB	16 GB	26.0 MB/sec	29.9 MB/sec	0.714 ms
Kingston DT HyperX3.0	USB3.0	64 GB	240.9 MB/sec	105.3 MB/sec	0.885 ms

5.10.2 CD-ROM

Test environment:

OS Windows XP professional SP2

Program (NERO)

CD-ROM Model	Interface	Average Speed	Full Read	Burst Rate	CD
PIONEER DVD DDVR-S19LBK	SATA	30.27 x	165 ms	29 MB/s	52 X CD-R
ASUS DRW-24D1ST	SATA	29.07 x	110 ms	60 MB/s	52 X CD-R
BUFFALO DVSM-PC58U2V	USB	14.72x	171 ms	19 MB/s	52X CD-R
LITEON DVD ETAU108	USB	14.71 x	161 ms	16 MB/s	52X CD-R