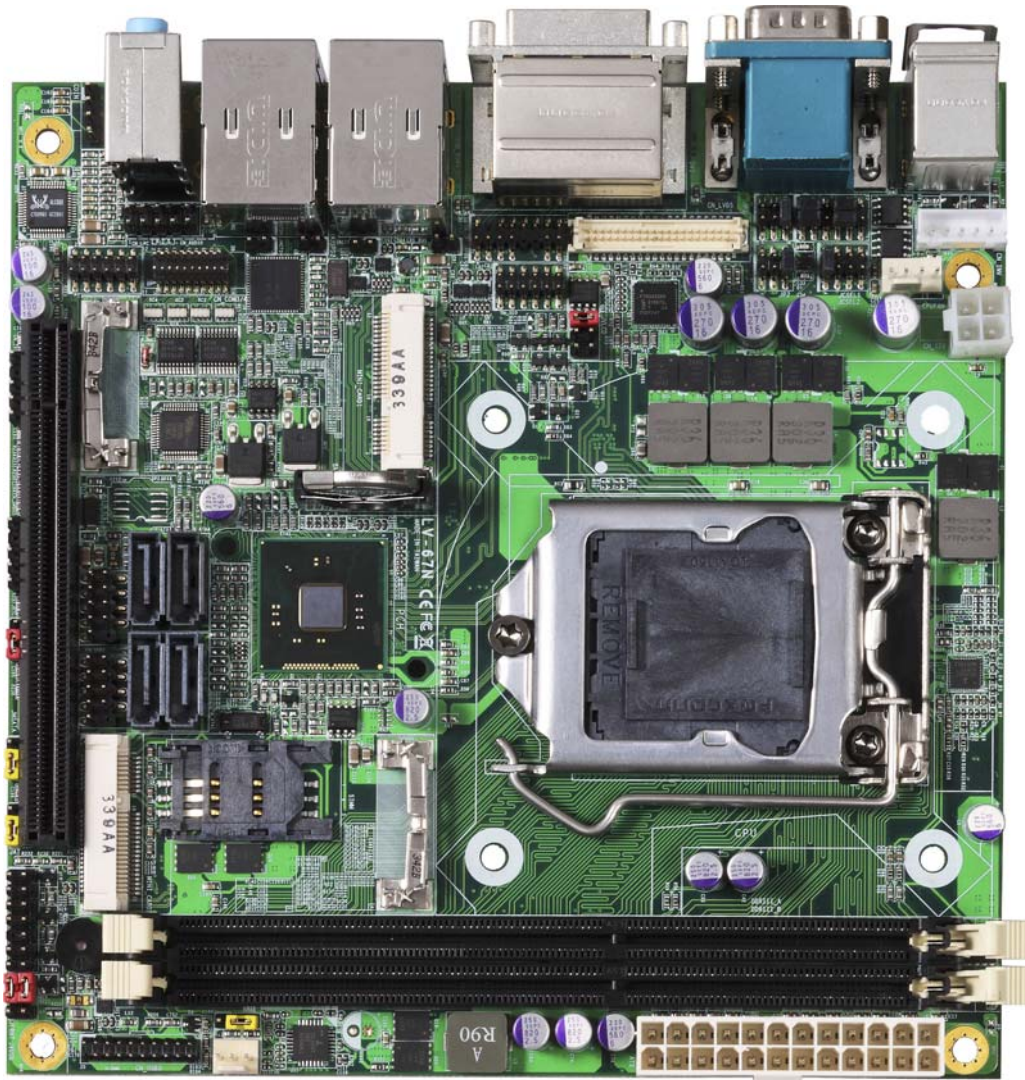


Product Test Report



Product Name	LV-67N
Product Version	A
Issued Date	2014.02.13
Report Edition	1.0
BIOS Version	1.0
Testing Engineer	PERRY

REVISION HISTORY

DATE	REVISION NO.	PAGE	DESCRIPTONS
2014.02.13	Ver. 1.0	64	Initial Release

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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	SATAIII : 1√2√3√4√
6	CN_USB 1/2	PASS	
7	USB3.0 1/2/3/4	PASS	
8	CN_USB3.0	PASS	
9	DDRIII A/B	PASS	
10	COM 1/2	PASS	Mouse√ B&B√
11	CN_COM 3/4	PASS	Mouse√ B&B√
12	CN_CRT	PASS	
13	PS2	PASS	
14	AUDIO	PASS	Line in√ Line out√ Mic in√
15	CN_AUDIO	PASS	Line out√ Mic in√
16	CN_DIO	PASS	DOS√
17	CN_LPC	PASS	(ADP-TPM)
18	CPUFAN	PASS	
19	SYSFAN	PASS	

20	MINI_CARD 1	PASS	mSATA v & 574D2 v
21	MINI_CARD 2	PASS	MPX-574D2 v
22	DVI	PASS	
23	Display port	PASS	
24	CN_LVDS	PASS	
25	CN_INV	PASS	
26	LAN 1/2	PASS	I217-LM v I210 v
27	CN_IR	X	(BIOS 1.1 v)
28	ATX	PASS	
29	CN_12V	PASS	
30	PCIE_16X	PASS	PCIE x16 : PX9500GT v PCIE x4 : PX9500GT + 轉接卡 x4 v PCIE x1 : LAN 卡 v
31	RS422-485	PASS	

Jumper

Item	Description	Result
1	JRTC	PASS
2	JCSEL1	PASS
3	JCSEL2	PASS
4	JVLCD	PASS
5	JAT	PASS
6	JMSATA	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	File > Properties > Settings > Emulation [VT100]
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 √ (XP x) RAID √
15	Max TOLUD	PASS	
16	Boot Type	PASS	(CRT √ DVI √ LVDS √)
17	LCD Panel Type	PASS	(1280x1024)
18	Panel Color Depth	PASS	(18 & 24Bit)
19	Azalia	PASS	
20	PCH Internal LAN	PASS	Disable 剩I210
21	LAN OPROM Selection	PASS	I217-LM √ I210 √

22	Wake on PCH LAN	PASS	
23	Intel(R) AMT	PASS	
24	Serial Port	PASS	
25	IR Func.	X	(BIOS 1.1 v)
26	Watch Dog Timer	PASS	
27	Power Loss	PASS	Power on v Power off v
28	CPU shutdown temperature	PASS	40°C v 50°C v only enter OS 60°C v
29	CPU warning temperature	PASS	40°C v 50°C v only enter OS 60°C v
30	CPU Fan Feature	PASS	Target Temp 50°C Tolerance Temp 1°C
31	Power On By RTC Alarm	PASS	
32	Set Supervisor Password	PASS	
33	Set User password	PASS	
34	S3(Stand by) Wake on	PASS	
35	ADP-TPM(CN_LPC)	PASS	

1.3 Driver

CD Edition : IPCI5-1.0

1. Windows Server 2003 32-bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	9.4.0.1021
2	VGA Driver	N/A	N/A(no Driver)
3	Audio Driver	PASS	5.10.0.6914
4	LAN Driver	N/A	N/A(no Driver)

2. Windows Server 2003 64-bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	9.4.0.1021
2	VGA Driver	N/A	N/A(no Driver)
3	Audio Driver	PASS	5.10.0.6914
4	LAN Driver	N/A	N/A(no Driver)

3. Windows XP SP2 32-bit driver test

Item	Description	Result	version
1	Chipset Driver	PASS	9.4.0.1021
2	VGA Driver	N/A	N/A(no Driver)
3	Audio Driver	PASS	5.10.0.6914
4	LAN Driver	N/A	N/A(no Driver)

4. Windows XP SP2 64-bit driver test

Item	Description	Result	version
1	Chipset Driver	PASS	9.4.0.1021
2	VGA Driver	N/A	N/A(no Driver)
3	Audio Driver (Need UAA bus driver)	PASS	5.10.0.6914
4	LAN Driver	N/A	N/A(no Driver)

5. Windows Vista 32-bit driver test

Item	Description	Result	version
1	Chipset Driver	PASS	9.4.0.1021
2	VGA Driver	N/A	N/A(no Driver)
3	Audio Driver	PASS	6.0.1.6914
4	LAN Driver	N/A	N/A(no Driver)

6. Windows Vista 64-bit driver test

Item	Description	Result	version
1	Chipset Driver	PASS	9.4.0.1021
2	VGA Driver	N/A	N/A(no Driver)
3	Audio Driver	PASS	6.0.1.6914
4	LAN Driver	N/A	N/A(no Driver)

7. Windows Server 2008R2 32-bit driver test

Item	Description	Result	version
1	Chipset Driver	PASS	9.4.0.1021
2	VGA Driver	PASS	9.18.10.3165
3	Audio Driver	PASS	6.0.1.6914
4	LAN Driver	N/A	N/A(no Driver)
5	USB 3.0 Driver	PASS	2.5.0.19

8. Windows Server 2008R2 64-bit driver test

Item	Description	Result	version
1	Chipset Driver	PASS	9.4.0.1021
2	VGA Driver	PASS	9.18.10.3165
3	Audio Driver	PASS	6.0.1.6914
4	LAN Driver	PASS	I217-LM : 12.8.33.0 I210 :12.7.28.0
5	USB 3.0 Driver	PASS	2.5.0.19

9. Windows 7 32-bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	9.4.0.1021
2	VGA Driver	PASS	9.18.10.3165
3	Audio Driver	PASS	6.0.1.6914
4	LAN Driver	PASS	I217-LM : 12.8.33.0 I210 :12.7.28.0
5	USB 3.0 Driver	PASS	2.5.0.19

10. Windows 7 64-bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	9.4.0.1021
2	VGA Driver	PASS	9.18.10.3165
3	Audio Driver	PASS	6.0.1.6914
4	LAN Driver	PASS	I217-LM : 12.8.33.0 I210 :12.7.28.0
5	USB 3.0 Driver	PASS	2.5.0.19

11. Windows 8 32-bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	9.4.0.1021
2	VGA Driver	PASS	9.18.10.3165
3	Audio Driver	PASS	6.0.1.6914
4	LAN Driver	PASS	I217-LM : 12.8.33.0 I210 :12.7.28.0

12. Windows 8 64-bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	9.4.0.1021
2	VGA Driver	PASS	9.18.10.3165
3	Audio Driver	PASS	6.0.1.6914
4	LAN Driver	PASS	I217-LM : 12.8.33.0 I210 :12.7.28.0

2. Compatibility test

2.1 CPU Test

Test environment:

OS Windows 7 professional SP1

Test program : PC MARK 2005

Spec Code	CPU Speed	Family	Processor	Max TDP	Smart Cache	Result
SR14H	3.1 GHz	Core	i7-4770S	65W	8 MB	PASS
SR14J	2.9 GHz	Core	i5-4570S	65W	6 MB	PASS
SR1NM	3.5 GHz	Core	i3-4330	54W	4 MB	PASS
SR181	2.3 GHz	Pentium	G3320TE	35W	3 MB	PASS
SR153	3.3 GHz	Xeon	E3-1230V3	80W	8 MB	PASS

2.2 Operation System Test

Item	Description	Result	Remark
1	Windows Server 2003 32-bit	PASS	NO VGA&LAN Driver
2	Windows Server 2003 64-bit	PASS	NO VGA&LAN Driver
3	Windows XP SP2 32-bit	PASS	AHCI X(No Driver) NO VGA&LAN Driver
4	Windows XP SP2 64-bit	PASS	AHCI X(No Driver) NO VGA&LAN Driver
5	Windows Vista 32-bit	PASS	NO VGA&LAN Driver
6	Windows Vista 64-bit	PASS	NO VGA&LAN Driver
7	Windows 7 32-bit	PASS	
8	Windows 7 64-bit	PASS	
9	Windows Server 2008 32-bit	PASS	NO LAN Driver
10	Windows Server 2008 64-bit	PASS	
11	Windows 8 32-bit	PASS	
12	Windows 8 64-bit	PASS	
13	Ubuntu 12.04 alternate amd64	PASS	Need install LAN Driver
14	Ubuntu 12.04 desktop amd64	PASS	Need install LAN Driver

2.3 Memory Test

Test environment:

OS Windows 7 Professional SP1

Test program : PC MARK 2005

Manufacturer	Chip	Frequency	Capacity Mbytes	Result
ACPI	hynix H5TC4G83AFR	DDR3 1600	8GB	PASS
ACPI	hynix H5TQ2G83EFR	DDR3 1600	4GB	PASS
ACPI	hynix H5TQ2G83EFR	DDR3 1600	2GB	PASS
Transcend	SEC 316 XYKO K4B4G0846B	DDR3L 1600	4GB	PASS
Kingston	ELPIDA J4208BBBG-GN-F	DDR3 1600	8GB	PASS
Kingston	Model:KHX1600C9D3LK2/8GX (4Gx2)	DDR3L 1600	4GB	PASS
Kingston	Kingston D1288JEMFPGD9U	DDR3 1333	2GB	PASS
ADATA	ADATA 3BCD-1509A PF1104E	DDR3 1333	1GB	PASS
ADATA	ADATA AD30908C8D-15HG	DDR3 1333	1GB	PASS
ADATA	ADATA AD30908C8D-15IG	DDR3 1333	2GB	PASS
ATLA (Atla Electronics)	SK hynix H5TC4G83AFR	DDR3 1600	4G	PASS

2.4 Graphic Quality Test

2.4.1 VGA Test environment:

OS Windows 7 professional SP1 32/64-bit

Driver version : 9.18.10.3165

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

*CRT & DVI & LVDS 需 Driver 才能同時顯示 3 個相同與延伸畫面(在 OS[win7]下)
(CRT & DVI & DP) (CRT & LVDS & DP) (DVI & LVDS & DP)

2.4.2 Display port Test environment:

OS Windows 7 professional SP1 32/64-bit

Resolution	Color	Result	Remark
800*600	16 / 32bit	PASS	Single
1024*768	16 / 32bit	PASS	Single
1152*864	16 / 32bit	PASS	Single
1280*600	16 / 32bit	PASS	Single
1280*720	16 / 32bit	PASS	Single
1280*768	16 / 32bit	PASS	Single
1280*800	16 / 32bit	PASS	Single
1280*960	16 / 32bit	PASS	Single
1280*1024	16 / 32bit	PASS	Single
1360*768	16 / 32bit	PASS	Single
1366*768	16 / 32bit	PASS	Single
1400*1050	16 / 32bit	PASS	Single
1440*900	16 / 32bit	PASS	Single
1600*900	16 / 32bit	PASS	Single
1600*1200	16 / 32bit	PASS	Single
1680*1050	16 / 32bit	PASS	Single
1792*1344	16 / 32bit	PASS	Single
1856*1392	16 / 32bit	PASS	Single
1920*1080	16 / 32bit	PASS	Single
1920*1200	16 / 32bit	PASS	Single
1920*1440	16 / 32bit	PASS	Single
2048*1152	16 / 32bit	PASS	Single
2560*1440	16 / 32bit	PASS	Single

2.5 Audio

Test environment:

OS Windows Server 2003 32-bit

Driver version : 5.10.0.6914

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	Line in	PASS	

OS Windows Server 2003 64-bit

Driver version : 5.10.0.6914

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	Line in	PASS	

OS Windows XP professional SP2 32-bit

Driver version : 5.10.0.6914

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	Line in	PASS	

OS Windows XP professional SP2 64-bit

Driver version : 5.10.0.6914

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	Line in	PASS	

OS Windows Vista 32 bit

Driver version : 6.0.1.6914

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	Line in	PASS	

OS Windows Vista 64 bit

Driver version : 6.0.1.6914

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
4	Line in	PASS	

OS Windows Server 2008R2 32-bit

Driver version : 6.0.1.6914

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	Line in	PASS	

OS Windows Server 2008R2 64-bit

Driver version : 6.0.1.6914

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	Line in	PASS	

OS Windows 7 32-bit

Driver version : 6.0.1.6914

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	Line in	PASS	

OS Windows 7 64-bit

Driver version : 6.0.1.6914

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	Line in	PASS	

OS Windows 8 32-bit

Driver version : 6.0.1.6914

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	Line in	PASS	

OS Windows 8 64-bit

Driver version : 6.0.1.6914

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	
3	Line in	PASS	

2.6 HDD Test

Test environment:

OS Windows 7 professional SP1

Model	Interface	Capacity	Size Detect	Data Transfer
Western Digital WD10EALX-009BA0	SATA	1.0 TB	PASS	PASS
Western Digital WD5002AALX-00J37A0	SATA	500 GB	PASS	PASS
Innodisk DES25-64GD06SC1QC	SATA (2.5" SSD)	64 GB	PASS	PASS
Innodisk DEMSR-32GD06SC2QC	mSATA	32G	PASS	PASS
Transcend TS64GMSA740	mSATA	64G	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

2.8 USB device Test

1. 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	

2. 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	

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 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	

5. Windows Server 2008R2 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	

6. Windows 8 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 Server 2003 32-bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	BIOS 1.1
2	RS-232 Mouse Test	PASS	BIOS 1.1
3	b&b com port test	PASS	BIOS 1.1

3. Windows Server 2003 64-bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	BIOS 1.1
2	RS-232 Mouse Test	PASS	BIOS 1.1

4. Windows XP SP2 32-bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	BIOS 1.1
2	RS-232 Mouse Test	PASS	BIOS 1.1
3	b&b com port test	PASS	BIOS 1.1

5. Windows XP SP2 64-bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	BIOS 1.1
2	RS-232 Mouse Test	PASS	BIOS 1.1

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 2008R2 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 2008R2 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	

12. Windows 8 32-bit

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

13. Windows 8 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 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	

3. 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	

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 2008R2 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	

7. Windows 8 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 Server 2008R2 64-bit (I217-LM)

64-bit driver version : 12.8.33.0

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

2. Windows Server 7 32/64-bit (I217-LM)

32-bit driver version : 12.8.33.0 ; 64-bit driver version : 12.8.33.0

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

3. Windows Server 8 32/64-bit (I217-LM)

32-bit driver version : 12.8.33.0 ; 64-bit driver version : 12.8.33.0

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	

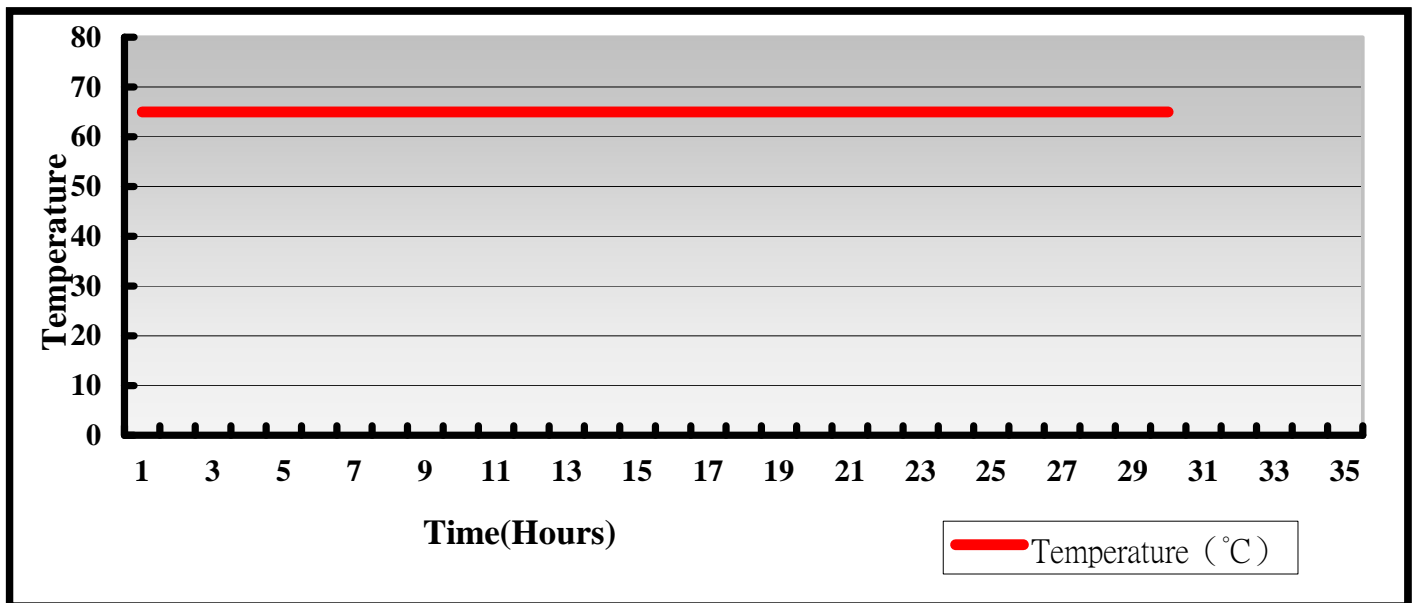
2.13 PCI Express mini card

Motherboard	PCI Express mini card	Result	Card1	Card2	Remark
LV-67N	MPX-827	PASS	V	V	Win7&Win8
	MPX-24794G2	PASS	V	V	Win7
	MPX-25858	PASS	V	V	Win7
	MPX-574D	PASS	V	V	Win7
	MPX-574D2	PASS	V	V	Win7
	MPX-643	PASS	V	V	Win7&Win8
	MPX-954E	PASS	V	V	Win7&Win8
	MPX-7202	PASS	V	V	Win7
	MPX-6864	PASS	V	V	Win7
	MPX-750	PASS	V	V	Win7
	MPX-210D	PASS	V	V	Win7&Win8
	MPX-210D2	PASS	V	V	Win7&Win8
	mSATA	PASS	V	X	Transcend 64G Innodisk 32G

3. Environmental test

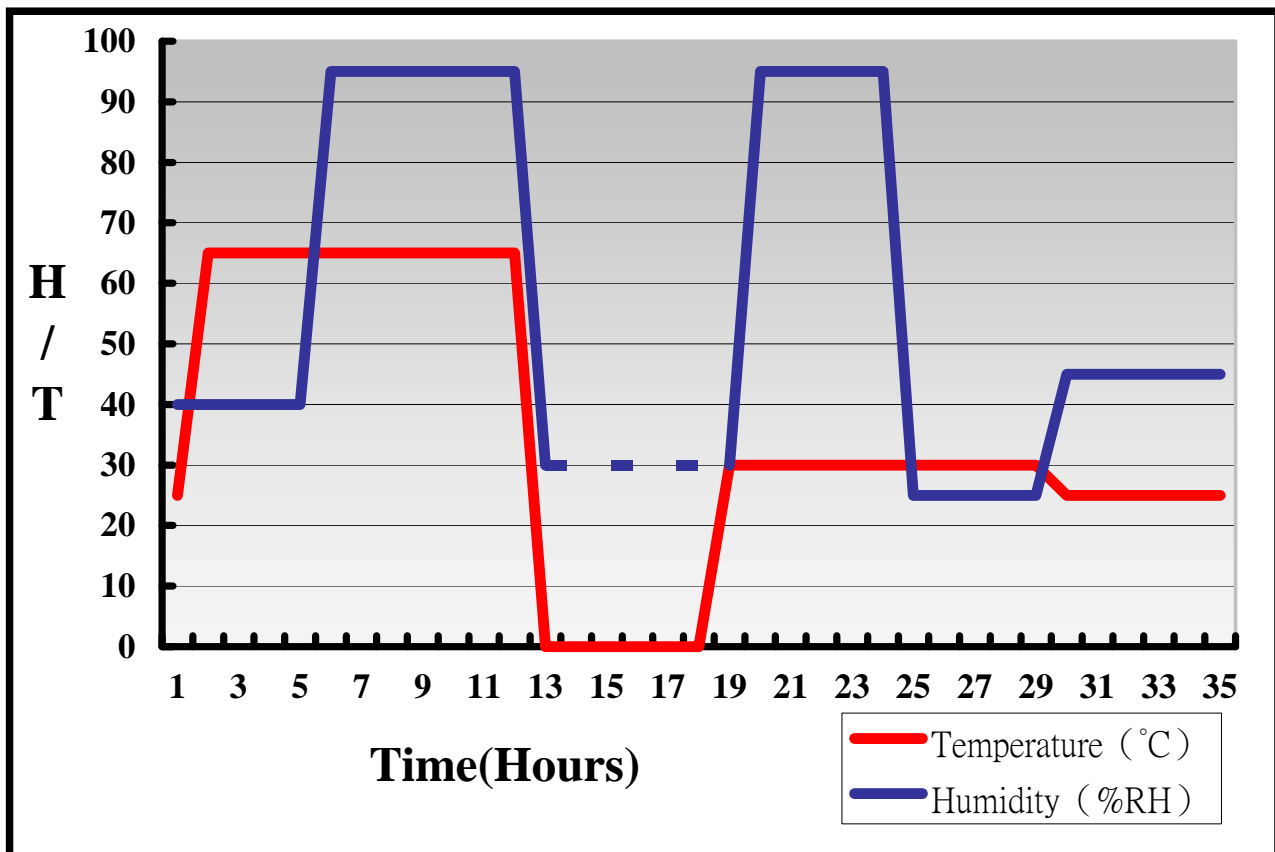
3.1 Temperature Test

System Board	LV-67N
CPU	Intel® Core™ i7-4770S 3.1GHz
Memory	ACPI DDR3 1600 8GB (hynix H5TC4G83AFR)
HDD	Western Digital WD10EALX-009BA0 1.0TB
Operating OS	Windows 7
Test Equipment	GIANT FORCE (GTH-150-60-CP-AR)
Test Program	3DMark 2003+Prime95-266



Hardware Device list:

System Board	LV-67N
CPU	Intel® Core™ i7-4770S 3.1GHz
Memory	ACPI DDR3 1600 8GB (hynix H5TC4G83AFR)
HDD	Western Digital WD10EALX-009BA0 1.0TB
Operating OS	Windows 7
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	LV-67N
CPU	Intel® Core™ i7-4770S 3.1GHz
Memory	ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR)
HDD	Western Digital WD10EALX-009BA0 1.0TB

Temperature	Result	Remark
65°C	PASS	50 Times
-40°C	PASS	50 Times

3.2 Thermal measurements at various points on the board

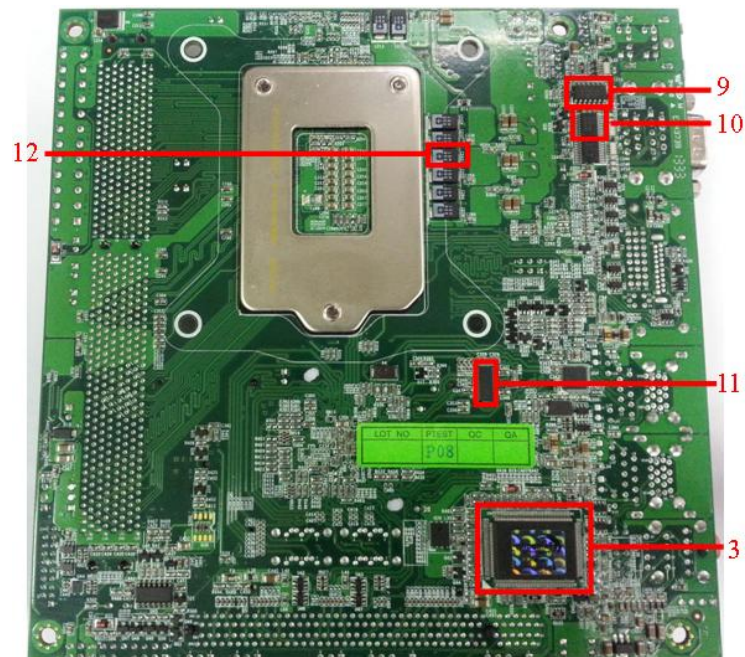
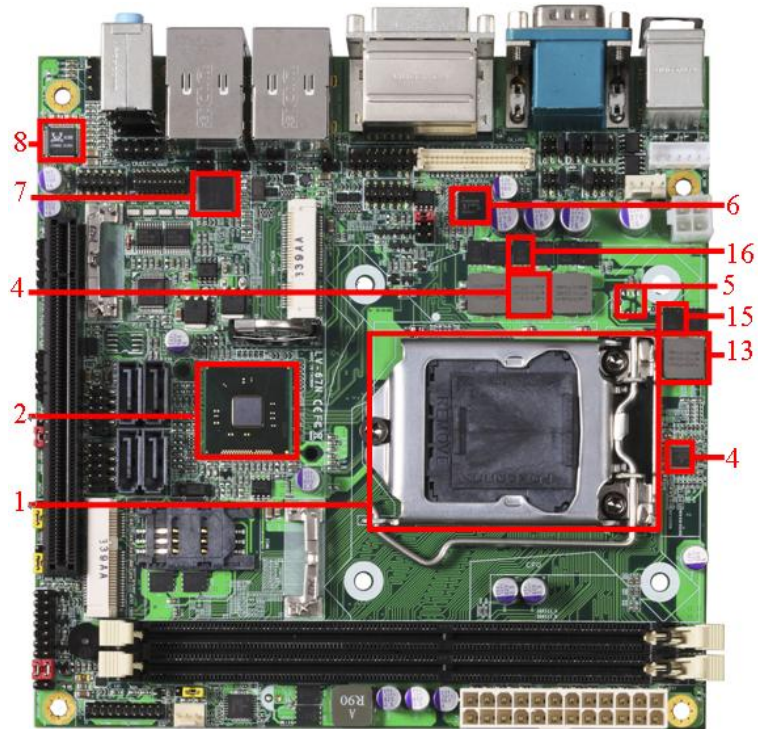
Test Environment :

CPU	Intel® Core™ i7-4770S 3.1GHz
Memory	Kingston DDR3 1600 4GBx2 (KHX1600C9D3LK2/8GX)
HDD	Western Digital WD10EALX-009BA0 1.0TB
Power	POWER SUPPLY Antec 350W
Operating System	Windows 7 SP1 32-bit
Test Program	3DMark 2006 + Prime 95-266

Test Result:

Item	Environmental temperature	26°C
1	CPU	52°C
2	PCH(Q87)	64°C
3	LPCIO	53°C
4	U1	63°C
5	U4	67°C
6	U5	56.3°C
7	U12	49.6°C
8	U20	54.8°C
9	U21	52°C
10	U22	61°C
11	U35	52°C

12	C243	57°C
13	L2	57.7°C
14	L5	65°C
15	Q4	73°C
16	Q9	69°C



4. Reliability Test

4.1 Power Consumption Test

1. Test Environment:

Motherboard	LV-67N
CPU	Intel® Core™ i7-4770S 3.1GHz
Memory	ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR)
HDD	Western Digital 1.0TB (WD10EALX-009BA0)

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	2.34	28.08	5.1	61.2
5V	1.09	5.45	2.62	13.1
3.3V	0.71	2.343	0.75	2.475
5VSB	0.67	3.35	0.69	3.45

1. a. 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	3.58	42.96	7.22	86.64
5V	1.1	5.5	2.35	11.75
3.3V	0.8	2.64	0.82	2.706
5VSB	0.99	4.95	0.96	4.8

1. b. Test Environment:

The same as above but with LCD panel

Graphics card	AUO M170EG01 17"LCD
---------------	---------------------

(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	3.84	46.08	6.5	78
5V	1.6	8	3	15
3.3V	0.81	2.673	0.82	2.706
5VSB	0.8	4	0.92	4.6

2. Test Environment:

Motherboard	LV-67N
CPU	Intel® Core™ i5-4570S 2.9GHz
Memory	ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR)
HDD	Western Digital 1.0TB (WD10EALX-009BA0)

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	2.46	29.52	4.67	56.04
5V	1.08	5.4	2.37	11.85
3.3V	0.73	2.409	0.76	2.508
5VSB	0.77	3.85	0.74	3.7

2. a. 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	3.57	42.84	6.48	77.76
5V	1.07	5.35	2.17	10.85
3.3V	0.8	2.64	0.79	2.607
5VSB	0.73	3.65	0.75	3.75

2. b. Test Environment:

The same as above but with LCD panel

Graphics card	AUO M170EG01 17"LCD
---------------	---------------------

(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	4.07	48.84	6.08	72.96
5V	1.64	8.2	3.03	15.15
3.3V	0.84	2.772	0.82	2.706
5VSB	0.78	3.9	0.84	4.2

3. Test Environment:

Motherboard	LV-67N
CPU	Intel® Core™ i3-4330 3.5GHz
Memory	ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR)
HDD	Western Digital 1.0TB (WD10EALX-009BA0)

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	2.13	25.56	4.5	54
5V	1.09	5.45	2.61	13.05
3.3V	0.74	2.442	0.74	2.442
5VSB	0.71	3.55	0.66	3.3

3. a. 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	3.28	39.36	6.69	80.28
5V	1.05	5.25	2.06	10.3
3.3V	0.78	2.574	0.82	2.706
5VSB	0.68	3.4	0.79	3.95

3. b. Test Environment:

The same as above but with LCD panel

Graphics card	AUO M170EG01 17"LCD
---------------	---------------------

(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	3.59	43.08	5.81	69.72
5V	1.57	7.85	2.8	14
3.3V	0.8	2.64	0.82	2.706
5VSB	0.78	3.9	0.8	4

4. Test Environment:

Motherboard	LV-67N
CPU	Intel® Pentium G3320TE 2.3GHz
Memory	ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR)
HDD	Western Digital 1.0TB (WD10EALX-009BA0)

Power Supply : Antec 350W

Voltage	MS-DOS Boot up		Win7(32Bit) PRIME 95(10min)	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	1.68	20.16	3.57	42.84
5V	1.02	5.1	1.82	9.1
3.3V	0.69	2.277	0.73	2.409
5VSB	0.73	3.65	0.81	4.05

4. a. 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	2.82	33.84	4.77	57.24
5V	1.07	5.35	1.82	9.1
3.3V	0.78	2.574	0.82	2.706
5VSB	0.84	4.2	0.95	4.75

4. b. Test Environment:

The same as above but with LCD panel

Graphics card	AUO M170EG01 17"LCD
---------------	---------------------

(A) Power Supply: Antec 350W

Voltage	MS-DOS Boot up		Win7(32Bit) PRIME 95(10min)	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	3.35	40.2	4.07	48.84
5V	1.66	8.3	2.42	12.1
3.3V	0.82	2.706	0.83	2.739
5VSB	0.78	3.9	0.72	3.6

5. Performance Test

5.1 Performance Test 8.0

Windows 7 x32

WEIGHTED SUITE	Test Environment	Result	Remark
Performance Test 8.0	Intel® Core™ i7-4770S 3.1GHz ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB	PASS	Summary 1956.1 CPU Mark 6583 2D Graphics Mark 661 3D Graphics Mark 624 Memory Mark 1425 Disk Mark 904

Windows 7 x32

WEIGHTED SUITE	Test Environment	Result	Remark
<p>Performance Test 8.0</p>	<p>Intel® Core™ i5-4570S 2.9GHz ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB</p>	<p>PASS</p>	<p>Summary 1876.9 CPU Mark 5093 2D Graphics Mark 659 3D Graphics Mark 638 Memory Mark 1446 Disk Mark 885</p>

Windows 7 x32

WEIGHTED SUITE	Test Environment	Result	Remark
<p>Performance Test 8.0</p>	<p>Intel® Core™ i3-4330 3.5GHz ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB</p>	<p>PASS</p>	<p>Summary 1609.7 CPU Mark 3661 2D Graphics Mark 609 3D Graphics Mark 542 Memory Mark 1191 Disk Mark 867</p>

Windows 7 x32

WEIGHTED SUITE	Test Environment	Result	Remark
<p>Performance Test 8.0</p>	<p>Intel® Pentium G3320TE 2.3GHz ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB</p>	<p>PASS</p>	<p>Summary 943.1 CPU Mark 1967 2D Graphics Mark 428.5 3D Graphics Mark N/A Memory Mark 1172 Disk Mark 883</p>

5.2 3D MARK(2001、2003、2005)

Windows 7 SP1 32-bit

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Score	Intel® Core™ i7-4770S 3.1GHz ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB	PASS	33303
3DMARK2003 Score		PASS	21437
3DMARK2005 Score		PASS	14955

Windows 7 SP1 32-bit

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Score	Intel® Core™ i5-4570S 2.9GHz ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB	PASS	30588
3DMARK2003 Score		PASS	20397
3DMARK2005 Score		PASS	14907

Windows 7 SP1 32-bit

WEIGHTED SUITE	Test Environment	Result	Remark
3DMARK2001 Score	Intel® Core™ i3-4330 3.5GHz ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB	PASS	19836
3DMARK2003 Score		PASS	13231
3DMARK2005 Score		PASS	9101

5.3 3D MARK Vantage

Windows 7 SP1 32-bit

Item	WEIGHTED SUITE	Test Environment	Result	Remark
1	3DMARK Score	Intel® Core™ i7-4770S 3.1GHz ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB	PASS	P4089
2	GPU Score		PASS	3362
3	CPU Score		PASS	11640

Windows 7 SP1 32-bit

Item	WEIGHTED SUITE	Test Environment	Result	Remark
1	3DMARK Score	Intel® Core™ i5-4570S 2.9GHz ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB	PASS	P5523
2	GPU Score		PASS	4501
3	CPU Score		PASS	17293

Windows 7 SP1 32-bit

Item	WEIGHTED SUITE	Test Environment	Result	Remark
1	3DMARK Score	Intel® Core™ i3-4330 3.5GHz ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB	PASS	P5001
2	GPU Score		PASS	4164
3	CPU Score		PASS	12611

Windows 7 SP1 32-bit

Item	WEIGHTED SUITE	Test Environment	Result	Remark
1	3DMARK Score	Intel® Pentium G3320TE 2.3GHz ACPI DDR3 1600 8GB (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB	N/A	N/A
2	SM2.0 Score		N/A	N/A
3	HDR/SM3.0 Score		N/A	N/A
4	CPU Score		N/A	N/A

5.4 PC MARK2002

Test Environment
Intel® Core™ i7-4770S 3.1GHz ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows XP PS2 32-bit

Item	Weighted Suite	Result	Remark
1	CPU Score	PASS	17354
2	Memory Score	PASS	73219
3	HDD Score	PASS	3061

Test Environment
Intel® Core™ i5-4570S 2.9GHz ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows XP PS2 32-bit

Item	Weighted Suite	Result	Remark
1	CPU Score	PASS	16051
2	Memory Score	PASS	67460
3	HDD Score	PASS	1898

Test Environment
Intel® Core™ i3-4330 2.3GHz ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows XP PS2 32-bit

Item	Weighted Suite	Result	Remark
1	CPU Score	PASS	15652
2	Memory Score	PASS	66052
3	HDD Score	PASS	2848

Test Environment
Intel® Pentium G3320TE 2.3GHz ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows XP PS2 32-bit

Item	Weighted Suite	Result	Remark
1	CPU Score	PASS	10298
2	Memory Score	PASS	42694
3	HDD Score	PASS	2960

5.5 PC MARK2004

Test Environment
Intel® Core™ i7-4770S 3.1GHz ACPI DDR3 1600 8GBx2 (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	20352
4	Graphic Score	N/A	N/A
5	HDD Score	PASS	7069

Test Environment

Intel® Core™ i5-4570S 2.9GHz
ACPI DDR3 1600 8GBx2 (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	18071
4	Graphic Score	N/A	N/A
5	HDD Score	PASS	7185

Test Environment

Intel® Core™ i3-4330 3.5GHz
ACPI DDR3 1600 8GBx2 (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	16079
4	Graphic Score	N/A	N/A
5	HDD Score	PASS	7179

Test Environment
Intel® Pentium G3320TE 2.3GHz ACPI DDR3 1600 8GBx2 (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	10835
4	Graphic Score	N/A	N/A
5	HDD Score	PASS	8195

5.6 PC MARK2005

Test Environment
Intel® Core™ i7-4770S 3.1GHz ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark Score	PASS	N/A
2	CPU Score	PASS	14080
3	Memory Score	PASS	15390
4	Graphic Score	N/A	N/A
5	HDD Score	PASS	7935

Test Environment
Intel® Core™ i5-4570S 2.9GHz ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark Score	PASS	N/A
2	CPU Score	PASS	13199
3	Memory Score	PASS	13467
4	Graphic Score	N/A	N/A
5	HDD Score	PASS	7937

Test Environment
Intel® Core™ i3-4330 3.5GHz ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark Score	PASS	N/A
2	CPU Score	PASS	11919
3	Memory Score	PASS	10614
4	Graphic Score	N/A	N/A
5	HDD Score	PASS	8741

Test Environment
Intel® Pentium G3320TE 2.3GHz ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark Score	PASS	N/A
2	CPU Score	PASS	7227
3	Memory Score	PASS	8846
4	Graphic Score	N/A	N/A
5	HDD Score	PASS	8666

5.7 AQUAMARK3

Test Environment
Intel® Core™ i7-4770S 3.1GHz ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows 7 SP1

Item	WEIGHTED SUITE	Result	Remark
1	GFX	PASS	19185
2	CPU	PASS	9007
3	AquaMark3 TRISCORE	PASS	92897

Test Environment
Intel® Core™ i5-4570S 2.9GHz ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows 7 SP1

Item	WEIGHTED SUITE	Result	Remark
1	GFX	PASS	21450
2	CPU	PASS	13804
3	AquaMark3 TRISCORE	PASS	120716

Test Environment
Intel® Core™ i3-4330 3.5GHz ACPI DDR3 1600 8GBx1 (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows 7 SP1

Item	WEIGHTED SUITE	Result	Remark
1	GFX	PASS	14670
2	CPU	PASS	9980
3	AquaMark3 TRISCORE	PASS	84544

Test Environment
Intel® Pentium G3320TE 2.3GHz ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows 7 SP1

Item	WEIGHTED SUITE	Result	Remark
1	GFX	N/A	N/A
2	CPU	N/A	N/A
3	AquaMark3 TRISCORE	N/A	N/A

5.8 CINEBENCH

Test Environment
Intel® Core™ i7-4770S 3.1GHz ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows 7 SP1

Item	WEIGHTED SUITE	Result	Remark
1	OpenGL	PASS	27.51 fps
2	CPU	PASS	6.21 pts

Test Environment

Intel® Core™ i5-4570S 2.9GHz
ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR)
Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	OpenGL	PASS	26.28 fps
2	CPU	PASS	4.49 pts

Test Environment

Intel® Core™ i3-4330 3.5GHz
ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR)
Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	OpenGL	PASS	16.87 fps
2	CPU	PASS	3.47 pts

Test Environment
Intel® Pentium G3320TE 2.3GHz ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	OpenGL	N/A	N/A fps
2	CPU	PASS	1.77 pts

5.9 ZD CPUMARK

Test Environment
Intel® Core™ i7-4770S 3.1GHz ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR) Western Digital WD10EALX-009BA0 1.0TB

Windows 7 SP1

Item	WEIGHTED SUITE	Result	Remark
1	SCORE	PASS	675

Test Environment

Intel® Core™ i5-4570S 2.9GHz
ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR)
Western Digital WD10EALX-009BA0 1.0TB

Windows 7 SP1

Item	WEIGHTED SUITE	Result	Remark
1	SCORE	PASS	622

Test Environment

Intel® Core™ i3-4330 3.5GHz
ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR)
Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	SCORE	PASS	607

Test Environment

Intel® Pentium G3320TE 2.3GHz
ACPI DDR3 1600 8GBx2 (hynix H5TC4G83AFR)
Western Digital WD10EALX-009BA0 1.0TB

Windows XP SP2

Item	WEIGHTED SUITE	Result	Remark
1	SCORE	PASS	399

5.10 Storage Performance

5.10.1 HDD

Test environment:

OS Windows 7 (32Bit)

Program (HD Tune)

HDD Model	Interface	Capacity	Average	Burst Rate	Access time
Western Digital WD5002AALX-00J37A0	SATA	500GB	98.8 MB/sec	185.6 MB/sec	13.3 ms
Western Digital WD10EALX-009BA0	SATA	1.0TB	109.3 MB/sec	179.8 MB/sec	16.1 ms
USB 2.0 Flash Disk	USB	2 GB	16.1 MB/sec	14.8 MB/sec	6.1 ms
JetFlash Transcend	USB	16 GB	33.0 MB/sec	22.1 MB/sec	0.6 ms
Kingston DT HyperX3.0	USB3.0	64 GB	243.3 MB/sec	76.4 MB/sec	1.1 ms
Transcend TS64GMSA740	mSATA SATAIII	64GB	355.5 MB/sec	263.2 MB/sec	0.058 ms
Innodisk mSATA 3ME DEMSR-32GD06SC2QC	mSATA SATAIII	32GB	296.3 MB/sec	405.5 MB/sec	0.107 ms
Innodisk SSD 2.5” DES25-64GD06SC1QC	SATAIII	64GB	115.4 MB/sec	41.8 MB/sec	0.128 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