

Product Test Report



Product Name	LV-67P
Product Version	A
Issued Date	2016.11.02
Report Edition	1.1
BIOS Version	1.0
Testing Engineer	Daniel
Check Engineer	Daniel

REVISION HISTORY

DATE	REVISION NO.	PAGE	DESCRIPTONS
2016.11.02	Ver. 1.0	40	Initial Release

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1. Function test

1.1 Hardware function

Base Function Test(OS:Win7 Pro 64)

Item	Description	Result	Remark
1	Power Button	PASS	
2	Reset	PASS	
3	Power LED	PASS	
4	HDD LED	PASS	
5	SATA 1/2	PASS	SATAIII : 1 v 2 v
6	CN_USB2-1	PASS	USB2-1-1 v USB2-1-2 v
7	CN_USB2-2	PASS	USB2-2-1 v USB2-2-2 v
8	USB3.0 1/2/3/4	PASS	
9	DDR3L 1/2	PASS	DDR3-1 v DDR3-2 v
10	COM 1/2	PASS	Mouse v FTDI v
11	CN_COM 3/4	PASS	Mouse v FTDI v
12	CN_COM 5/6	PASS	Mouse v FTDI v
13	CN_PS2	PASS	
14	AUDIO	PASS	Line in v Line out v Mic in v
15	CN_AUDIO	PASS	Line out v Mic in v
16	CN_DIO	PASS	
17	CN_LPC	PASS	
18	CPUFAN	PASS	
19	SYSFAN	PASS	
20	MINI_CARD	PASS	WIFI Card v
21	MSATA	PASS	

22	CN_CRT	PASS	
23	DVI	PASS	
24	Display port	PASS	
25	HDMI	PASS	
26	CN_LVDS	PASS	
27	CN_INV	PASS	
28	LAN 1/2	PASS	I210-1 v I210-2 v
29	DC_IN	PASS	
30	ATX	PASS	
31	PCIE_16X	PASS	PCIE x1 : R5 230 v
32	RS422&485	PASS	COM422 v COM485 v

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	UEFI Boot	PASS	
10	Select Language	PASS	
13	Primary IGFX Boot Display	PASS	
14	SATA Configuration	PASS	SATA Controller v
15	USB Configuration	PASS	
16	HD Audio Configuration	PASS	HD Audio v
17	Wake on LAN Enable	PASS	
18	Super IO Chip	PASS	
19	Watch Dog Timer Select	PASS	
20	Power Control	PASS	
21	Smart Fan Feature	PASS	CPU Smart Fan Mode v SYS Smart Fan Mode v
22	Hardware Monitor	PASS	

1.3 Driver

CD Edition : DIPCi1-1.4

1. Windows 7 32-bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	10.1.1.13
2	Graphic Driver	PASS	20.19.15.4380
3	Audio Driver	PASS	6.0.1.7541
4	LAN Driver	PASS	12.13.27.0
5	USB 3.0 Driver	PASS	4.0.4.51

2. Windows 7 64-bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	10.1.1.13
2	Graphic Driver	PASS	20.19.15.4380
3	Audio Driver	PASS	6.0.1.7541
4	LAN Driver	PASS	12.13.27.0
5	USB 3.0 Driver	PASS	4.0.4.51

3. Windows 8.1 32-bit driver test

Item	Description	Result	version
1	Chipset Driver	PASS	10.1.1.13
2	Graphic Driver	PASS	20.19.15.4380
3	Audio Driver	PASS	6.0.1.7541
4	LAN Driver	PASS	12.6.47.1

4. Windows 8.1 64-bit driver test

Item	Description	Result	version
1	Chipset Driver	PASS	10.1.1.13
2	Graphic Driver	PASS	20.19.15.4380
3	Audio Driver	PASS	6.0.1.7541
4	LAN Driver	PASS	12.6.47.1

5. Windows 10 64-bit driver test

Item	Description	Result	version
1	Chipset Driver	PASS	10.1.1.13
2	Graphic Driver	PASS	20.19.15.4380
3	Audio Driver	PASS	6.0.1.7541
4	LAN Driver	PASS	12.12.50.6

2. Compatibility test

2.1 CPU Test

Test environment:

OS Windows 7 professional SP1

Test program : PC MARK7

Spec Code	CPU Speed	Max Turbo Frequency	Family	Processor	Max TDP	Cache	Result
SR2LV	1.04GHz	2.00GHz	Atom	X5-E8000	5W	2MB	PASS
SR2KL	1.60GHz	2.56GHz	Pentium	N3710	6W	2MB	PASS

2.2 Operation System Test

Item	Description	Result	Remark
1	Windows 7 32-bit	PASS	
2	Windows 7 64-bit	PASS	
3	Windows 8.1 32-bit	PASS	
4	Windows 8.1 64-bit	PASS	
5	Windows 10 64-bit	PASS	
6	Ubuntu 16.04 LTS 64bit	PASS	

2.3 Memory Test

Test environment:

OS Windows 7 Professional SP1

Test program : PC MARK 7 & AIDA64

Manufacturer/ Model No.	Chip	Frequency	Capacity Mbytes	Result
ACPI CMA5-4GA01BAL01A00	SKhynix H5TC4GB3AFR	DDR3L1600	8GB	PASS
Kingston KVR16LS11/4	Kingston D512BEC4BPGG8U	DDR3L1600	4GB	PASS
Transcend TS512MSK64W6H	SEC 234 HYK0 K4B4G0846B	DDR3L 1600	4 GB	PASS

2.4 Graphic Quality Test

2.4.1 Resolution test

Test environment OS : Windows 7 professional SP1 64-bit

Driver version : 20.19.15.4380

Resolution	Color	DVI	HDMI	Display Port	Remark
800*600	16 / 32bit	PASS	PASS	PASS	Single
1024*768	16 / 32bit	PASS	PASS	PASS	Single
1152*864	16 / 32bit	PASS	PASS	PASS	Single
1280*600	16 / 32bit	PASS	PASS	PASS	Single
1280*720	16 / 32bit	PASS	PASS	PASS	Single
1280*768	16 / 32bit	PASS	PASS	PASS	Single
1280*800	16 / 32bit	PASS	PASS	PASS	Single
1280*960	16 / 32bit	PASS	PASS	PASS	Single
1280*1024	16 / 32bit	PASS	PASS	PASS	Single
1360*768	16 / 32bit	PASS	PASS	PASS	Single
1366*768	16 / 32bit	PASS	PASS	PASS	Single
1400*1050	16 / 32bit	PASS	PASS	PASS	Single
1440*900	16 / 32bit	PASS	PASS	PASS	Single
1600*900	16 / 32bit	PASS	PASS	PASS	Single
1680*1050	16 / 32bit	PASS	PASS	PASS	Single
1920*1080	16 / 32bit	PASS	PASS	PASS	Single
1920*1200	16 / 32bit	N/C	PASS	PASS	Single
1920*1440	16 / 32bit	N/C	PASS	PASS	Single
2048*1152	16 / 32bit	N/C	PASS	PASS	Single
2560*1440	16 / 32bit	N/C	PASS	PASS	Single
3840*2160	16 / 32bit	N/C	PASS	PASS	Single

2.4.2 Resolution test

Test environment OS : Windows 10 64-bit

Driver version : 20.19.15.4380

Resolution	Color	DVI	HDMI	Display Port	Remark
800*600	16 / 32bit	PASS	PASS	PASS	Single
1024*768	16 / 32bit	PASS	PASS	PASS	Single
1152*864	16 / 32bit	PASS	PASS	PASS	Single
1280*600	16 / 32bit	PASS	PASS	PASS	Single
1280*720	16 / 32bit	PASS	PASS	PASS	Single
1280*768	16 / 32bit	PASS	PASS	PASS	Single
1280*800	16 / 32bit	PASS	PASS	PASS	Single
1280*960	16 / 32bit	PASS	PASS	PASS	Single
1280*1024	16 / 32bit	PASS	PASS	PASS	Single
1360*768	16 / 32bit	PASS	PASS	PASS	Single
1366*768	16 / 32bit	PASS	PASS	PASS	Single
1400*1050	16 / 32bit	PASS	PASS	PASS	Single
1440*900	16 / 32bit	PASS	PASS	PASS	Single
1600*900	16 / 32bit	PASS	PASS	PASS	Single
1680*1050	16 / 32bit	PASS	PASS	PASS	Single
1920*1080	16 / 32bit	PASS	PASS	PASS	Single
1920*1200	16 / 32bit	N/C	PASS	PASS	Single
1920*1440	16 / 32bit	N/C	PASS	PASS	Single
2048*1152	16 / 32bit	N/C	PASS	PASS	Single
2560*1440	16 / 32bit	N/C	PASS	PASS	Single
3840*2160	16 / 32bit	N/C	PASS	PASS	Single

2.5 Audio

Test environment:

OS Windows 7 32-bit

Driver version : 6.0.1.7541

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

OS Windows 7 64-bit

Driver version : 6.0.1.7541

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

OS Windows 8.1 32 bit

Driver version : 6.0.1.7541

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

OS Windows 8.1 64 bit

Driver version : 6.0.1.7541

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

OS Windows 10 64-bit

Driver version : 6.0.1.7541

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
WD WD10EALX	SATA3	1TB	PASS	PASS
INTEL DC S3500	SATA3	120GB	PASS	PASS
KINGSTON SV300S37A24G	SSD	240 GB	PASS	PASS
MemoRight MRSAJ6C064GC125C00	SSD	64 GB	PASS	PASS
INTEL TS128GSSD370	SSD	128 GB	PASS	PASS

2.7 DVD/CD-ROM Test

Test environment: OS Windows 7 professional SP1

Model	Interface	Detect	Data Transfer	Play CD
Transcend DVD TS8XDVDS-K	USB	PASS	PASS	PASS
LITEON eTAU108	USB	PASS	PASS	PASS
Pioneer DDVR-S19LBK-24X	SATA	PASS	PASS	PASS
LITEON iHES312	SATA	PASS	PASS	PASS
ASUS DRW-1814BLT	SATA	PASS	PASS	PASS

2.8 USB device Test

1. Windows 7 32/64-bit

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

*USB device need to install driver first.

2. Windows 8.1 32/64-bit

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

3. Windows 10 64-bit

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

2.9 Serial Port Test

1. Windows 7 32-bit

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

2. Windows 7 64-bit

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

3. Windows 8.1 32-bit

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

4. Windows 8.1 64-bit

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

5. Windows 10 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 7 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 8.1 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 10 64-bit

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

2.11 Power Supply Test

Item	TYPE	Description	Result	Remark
1	ATX Power	Corsair CX500	PASS	
2	ATX Power	AcBel IPower 430 380W	PASS	

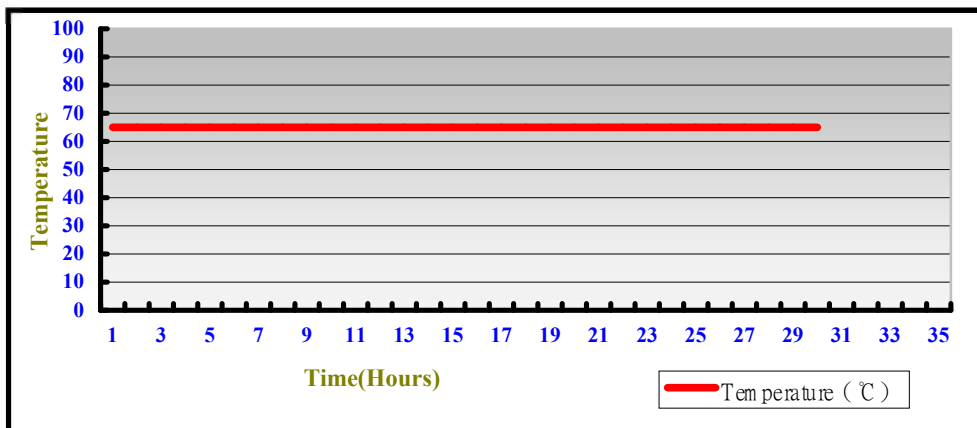
2.12 PCI Express mini card

Motherboard	PCI Express mini card	Result
LV-67P	MPX-210D	PASS
	MPX-210D2	Not Support
	MPX-574D	PASS
	MPX-574D2	Not Support
	MPX-643	PASS
	MPX-827	PASS
	MPX-954	PASS
	MPX-5201	PASS
	MPX-6864	PASS
	MPX-7202	PASS
	MPX-9125	PASS
	MPX-24794G2	PASS
	MPX-25858	PASS

3. Environmental test

3.1 Temperature Test

System Board	LV-67P
CPU	Intel® Pentium® Processor N3710
Memory	Kingston KVR16LS11/4
HDD	WDC WD10EALX-009BA0
Power	AcBel IPower 430 380W
Operating OS	Windows 7 SP1
Test Equipment	GIANT FORCE (GTH-150-60-CP-AR)
Test Program	3DMark +Prime95-266



Boot Up Test:

Hardware Device list:

System Board	LV-67P
CPU	Intel® Pentium® Processor N3710
Memory	Kingston KVR16LS11/4
HDD	WDC WD10EALX-009BA0
Power	AcBel IPower 430 380W

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

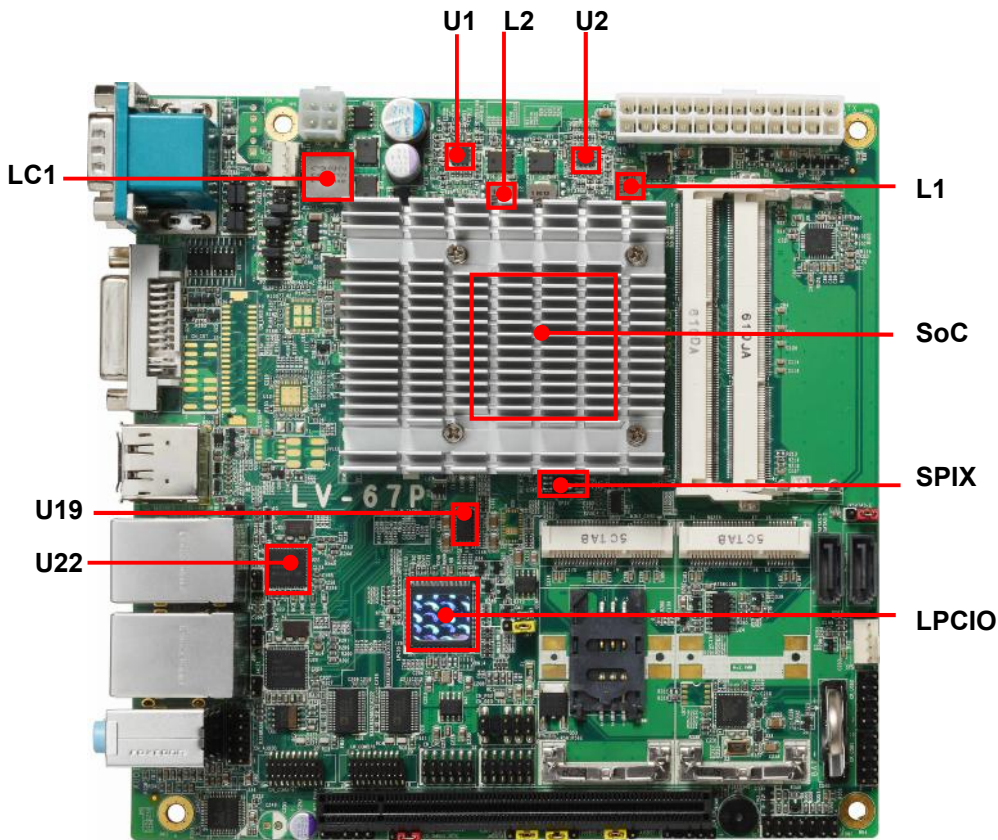
3.2 Thermal measurements at various points on the board

Test Environment :

CPU	Intel® Pentium® Processor N3710
Memory	Kingston KVR16LS11/4
HDD	WDC WD10EALX-009BA0
Power	Corsair CX500
Operating System	Windows 7 SP1
Test Program	3DMark 2006 + Prime 95-266

Test Result:

Item	Environmental temperature	26°C
1	SoC	80°C
2	LC1	37.5°C
3	L1	48.6°C
4	L2	54.3°C
5	U1	49.7°C
6	U2	52.1°C
7	U19	43.2°C
8	U22	40.1°C
9	LPCIO	37.1°C
10	SPIX	42.3°C



4. Reliability Test

4.1 Power Consumption Test

1. Test Environment:

Motherboard	LV-67P
CPU	Intel(R) Atom(R) CPU X5-E8000
Memory	ACPI DDR3L 1600 8G
HDD	Intel SSD S3500

Voltage	MS-DOS Boot up		Win7(64Bit) 3DMARK 06(once) + PRIME 95	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	0.60	7.2	0.88	10.56
27V	0.30	8.1	0.42	11.34

1. b. Test Environment:

The same as above but with LCD panel

Display Panel	M170EG01
----------------------	-----------------

Voltage	MS-DOS Boot up		Win7(64Bit) 3DMARK 06(once) + PRIME 95	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	2.59	31.08	2.98	35.76
27V	1.14	30.78	1.31	35.37

2. Test Environment:

Motherboard	LV-67P
CPU	Intel® Pentium® Processor N3710
Memory	ACPI DDR3L 1600 8G
HDD	Intel SSD S3500

Voltage	MS-DOS Boot up		Win7(64Bit) 3DMARK 06(once) + PRIME 95	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	0.59	7.08	1.25	15.00
27V	0.30	8.1	0.60	16.20

2. a. Test Environment:

The same as above but with LCD panel

Display Panel	M170EG01
----------------------	-----------------

Voltage	MS-DOS Boot up		Win7(64Bit) 3DMARK 06(once) + PRIME 95	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	2.19	30.66	2.75	38.5
27V	1.29	34.83	1.5	40.5

5. Performance Test

5.1 Performance Test 8.0

Windows 7 SP1 32-bit

WEIGHTED SUITE	Test Environment	Result	Remark
Performance Test 8.0	Intel(R) Pentium(R) CPU N3710 @ 1.60GHz Kingston DDR3L 1600 4GBx1 Intel SSD S3500	PASS	Summary 812 CPU Mark 1474 2D Graphics Mark 201 3D Graphics Mark 272 Memory Mark 476 Disk Mark 2550

Windows 7 SP1 32-bit

WEIGHTED SUITE	Test Environment	Result	Remark
Performance Test 8.0	Intel(R) Atom(R) CPU X5-E8000 @ 1.04GHz Kingston DDR3L 1600 4GBx1 Intel SSD S3500	PASS	Summary 601 CPU Mark 1095 2D Graphics Mark 153 3D Graphics Mark 171 Memory Mark 400 Disk Mark 2510

Windows 7 SP1 64-bit

WEIGHTED SUITE	Test Environment	Result	Remark
Performance Test 8.0	Intel(R) Pentium(R) CPU N3710 @ 1.60GHz ACPI DDR3L 1600 8GBx1 Intel SSD S3500	PASS	Summary 751 CPU Mark 1970 2D Graphics Mark 249.4 3D Graphics Mark 128.3 Memory Mark 732 Disk Mark 2422

Windows 7 SP1 64-bit

WEIGHTED SUITE	Test Environment	Result	Remark
Performance Test 8.0	Intel(R) Atom(R) CPU X5-E8000 @ 1.04GHz ACPI DDR3L 1600 8GBx1 Intel SSD S3500	PASS	Summary 787 CPU Mark 1708 2D Graphics Mark 213 3D Graphics Mark 174 Memory Mark 651 Disk Mark 2453

Windows 10 64-bit

WEIGHTED SUITE	Test Environment	Result	Remark
Performance Test 8.0	Intel(R) Pentium(R) CPU N3710 @ 1.60GHz ACPI DDR3L 1600 8GBx1 Crucial CT120M500SSD3	PASS	Summary 943 CPU Mark 2103 2D Graphics Mark 240 3D Graphics Mark 284 Memory Mark 690 Disk Mark 1045

Windows 10 64-bit

WEIGHTED SUITE	Test Environment	Result	Remark
Performance Test 8.0	Intel(R) Atom(R) CPU X5-E8000 @ 1.04Hz ACPI DDR3L 1600 8GBx1 Crucial CT120M500SSD3	PASS	Summary 774.3 CPU Mark 1742 2D Graphics Mark 193 3D Graphics Mark 180 Memory Mark 664 Disk Mark 1841

5.2 3D MARK

Windows 7 SP1 32-bit

CPU	Intel(R) Pentium(R) CPU N3710 @ 1.60GHz			
Memory	ACPI DDR3L 1600 8GBx1			
HDD	Intel SSD S3500			
WEIGHTED SUITE		Result	Score	Remark
3DMARK2006	3DMARK Score	PASS	2908	
	SM2.0 Score	PASS	989	
	HDR/SM3.0 Score	PASS	1140	
	CPU Score	PASS	2460	
3DMARK11	3DMARK11 Score	PASS	P248	
	Graphics score	PASS	216	
	Physics score	PASS	1374	
	Combined score	PASS	225	

Windows 7 SP1 32-bit

CPU	Intel(R) Atom(R) CPU X5-E8000 @ 1.04GHz			
Memory	ACPI DDR3L 1600 8GBx1			
HDD	Intel SSD S3500			
WEIGHTED SUITE		Result	Score	Remark
3DMARK2006	3DMARK Score	PASS	2202	
	SM2.0 Score	PASS	765	
	HDR/SM3.0 Score	PASS	847	
	CPU Score	PASS	1857	
3DMARK11	3DMARK11 Score	PASS	P278	
	Graphics score	PASS	239	
	Physics score	PASS	1180	
	Combined score	PASS	306	

Windows 7 SP1 64-bit

CPU	Intel(R) Pentium(R) CPU N3710 @ 1.60GHz			
Memory	ACPI DDR3L 1600 8GBx1			
HDD	Intel SSD S3500			
WEIGHTED SUITE		Result	Score	Remark
3DMARK2006	3DMARK Score	PASS	2955	
	SM2.0 Score	PASS	1011	
	HDR/SM3.0 Score	PASS	1156	
	CPU Score	PASS	2433	
3DMARK11	3DMARK11 Score	PASS	P251	
	Graphics score	PASS	217	
	Physics score	PASS	1906	
	Combined score	PASS	226	

Windows 7 SP1 64-bit

CPU	Intel(R) Atom(R) CPU X5-E8000 @ 1.04GHz			
Memory	ACPI DDR3L 1600 8GBx1			
HDD	Intel SSD S3500			
WEIGHTED SUITE		Result	Score	Remark
3DMARK2006	3DMARK Score	PASS	2255	
	SM2.0 Score	PASS	794	
	HDR/SM3.0 Score	PASS	856	
	CPU Score	PASS	1921	
3DMARK11	3DMARK11 Score	PASS	P281	
	Graphics score	PASS	241	
	Physics score	PASS	1365	
	Combined score	PASS	305	

Windows 8.1 32-bit

CPU	Intel(R) Pentium(R) CPU N3710 @ 1.60GHz			
Memory	ACPI DDR3L 1600 8GBx1			
HDD	Intel SSD S3500			
WEIGHTED SUITE		Result	Score	Remark
<u>3DMARK2006</u>	3DMARK Score	PASS	3000	
	SM2.0 Score	PASS	1013	
	HDR/SM3.0 Score	PASS	1179	
	CPU Score	PASS	2583	
<u>3DMARK11</u>	3DMARK11 Score	PASS	P215	
	Graphics score	PASS	183	
	Physics score	PASS	1599	
	Combined score	PASS	225	

Windows 8.1 64-bit

CPU	Intel(R) Pentium(R) CPU N3710 @ 1.60GHz			
Memory	ACPI DDR3L 1600 8GBx1			
HDD	Intel SSD S3500			
WEIGHTED SUITE		Result	Score	Remark
<u>3DMARK2006</u>	3DMARK Score	PASS	2489	
	SM2.0 Score	PASS	1008	
	HDR/SM3.0 Score	PASS	800	
	CPU Score	PASS	2332	
<u>3DMARK11</u>	3DMARK11 Score	PASS	P217	
	Graphics score	PASS	184	
	Physics score	PASS	1846	
	Combined score	PASS	227	

Windows 10 64-bit

CPU	Intel(R) Pentium (R) CPU N3710 @ 1.60GHz			
Memory	ACPI DDR3L 1600 8GBx1			
HDD	Crucial CT120M500SSD3			
WEIGHTED SUITE		Result	Score	Remark
3DMARK2006	3DMARK Score	PASS	2493	
	SM2.0 Score	PASS	999	
	HDR/SM3.0 Score	PASS	803	
	CPU Score	PASS	2515	
3DMARK11	3DMARK11 Score	PASS	P222	
	Graphics score	PASS	189	
	Physics score	PASS	1724	
	Combined score	PASS	226	

Windows 10 64-bit

CPU	Intel(R) Atom(R) CPU X5-E8000 @ 1.04GHz			
Memory	ACPI DDR3L 1600 8GBx1			
HDD	Crucial CT120M500SSD3			
WEIGHTED SUITE		Result	Score	Remark
3DMARK2006	3DMARK Score	PASS	2171	
	SM2.0 Score	PASS	765	
	HDR/SM3.0 Score	PASS	823	
	CPU Score	PASS	1853	
3DMARK11	3DMARK11 Score	PASS	P287	
	Graphics score	PASS	245	
	Physics score	PASS	1454	
	Combined score	PASS	315	

5.4 PC MARK

Windows 7 SP1 32-bit

CPU	Intel(R) Pentium(R) CPU N3710 @ 1.60GHz			
Memory	ACPI DDR3L 1600 8GBx1			
HDD	Intel SSD S3500			
WEIGHTED SUITE		Result	Score	Remark
PCMARK7	PCMark score	PASS	2732	
PCMARK8	Home 2.0 score	PASS	1715	

Windows 7 SP1 32-bit

CPU	Intel(R) Atom(R) CPU X5-E8000 @ 1.04GHz			
Memory	ACPI DDR3L 1600 8GBx1			
HDD	Intel SSD S3500			
WEIGHTED SUITE		Result	Score	Remark
PCMARK7	PCMark score	PASS	2431	
PCMARK8	Home 2.0 score	PASS	1442	

Windows 7 SP1 64-bit

CPU	Intel(R) Pentium(R) CPU N3710 @ 1.60GHz			
Memory	ACPI DDR3L 1600 8GBx1			
HDD	Intel SSD S3500			
WEIGHTED SUITE		Result	Score	Remark
PCMARK7	PCMark score	PASS	2831	
PCMARK8	CREATIVE score	PASS	1298	

Windows 8.1 32-bit

CPU	Intel(R) Pentium(R) CPU N3710 @ 1.60GHz			
Memory	ACPI DDR3L 1600 8GBx1			
HDD	Intel SSD S3500			
WEIGHTED SUITE		Result	Score	Remark
PCMARK7	PCMark score	PASS	3095	
PCMARK8	CREATIVE score	PASS	1480	

Windows 8.1 64-bit

CPU	Intel(R) Pentium(R) CPU N3710 @ 1.60GHz			
Memory	ACPI DDR3L 1600 8GBx1			
HDD	Intel SSD S3500			
WEIGHTED SUITE		Result	Score	Remark
PCMARK7	PCMark score	PASS	2894	
PCMARK8	CREATIVE score	PASS	1430	

Windows 10 64-bit

CPU	Intel(R) Pentium(R) CPU N3710 @ 1.60GHz			
Memory	ACPI DDR3L 1600 8GBx1			
HDD	Crucial CT120M500SSD3			
WEIGHTED SUITE		Result	Score	Remark
PCMARK7	PCMark score	PASS	3023	
PCMARK8	CREATIVE score	PASS	1800	

Windows 10 64-bit

CPU	Intel(R) Atom(R) CPU X5-E8000 @ 1.04GHz			
Memory	ACPI DDR3L 1600 8GBx1			
HDD	Crucial CT120M500SSD3			
WEIGHTED SUITE		Result	Score	Remark
<u>PCMARK7</u>	PCMark score	PASS	2763	
<u>PCMARK8</u>	CREATIVE score	PASS	1459	

5.5 AIDA64 Benchmark

Windows 7 SP1 64-bit

CPU	Intel(R) Pentium(R) CPU N3710 @ 1.60GHz
Memory	ACPI DDR3L 1600 8GBx1
HDD	Intel SSD S3500
Memory Read	8451 MB/s
Memory Write	9196 MB/s
Memory Copy	7802 MB/s
Memory Latency	120.3 ns
CPU Queen	19173
CPU PhotoWorxx	4034 MPixel/s
CPU ZLib	103.7 MB/s
CPU AES	1995 MB/s
CPU Hash	970 MB/s
FPU VP8	1916
FPU Julia	4303
FPU Mandel	1468
FPU SinJulia	1000
FP32 Ray-Trace	615 KRay/s
FP64 Ray-Trace	226 KRay/s

Windows 8.1 64-bit

CPU	Intel(R) Pentium(R) CPU N3710 @ 1.60GHz
Memory	ACPI DDR3L 1600 8GBx1
HDD	Intel SSD S3500
Memory Read	8262 MB/s
Memory Write	9191 MB/s
Memory Copy	7707 MB/s
Memory Latency	125.1 ns
CPU Queen	19193
CPU PhotoWorxx	4040 MPixel/s
CPU ZLib	103.4 MB/s
CPU AES	1991 MB/s
CPU Hash	970 MB/s
FPU VP8	1952
FPU Julia	4298
FPU Mandel	1462
FPU SinJulia	999
FP32 Ray-Trace	615 KRay/s
FP64 Ray-Trace	226 KRay/s

Windows 10 64-bit

CPU	Intel(R) Pentium(R) CPU N3710 @ 1.60GHz
Memory	ACPI DDR3L 1600 8GBx1
HDD	Crucial CT120M500SSD3
Memory Read	8149 MB/s
Memory Write	9299 MB/s
Memory Copy	8416 MB/s
Memory Latency	119.4 ns
CPU Queen	19191
CPU PhotoWorxx	4018 MPixel/s
CPU ZLib	103.5 MB/s
CPU AES	1997 MB/s
CPU Hash	971 MB/s
FPU VP8	2136
FPU Julia	4299
FPU Mandel	1466
FPU SinJulia	999
FP32 Ray-Trace	615 KRay/s
FP64 Ray-Trace	226 KRay/s

5.6 CINEBENCH R15

Windows 7 SP1 64-bit

CPU	Intel(R) Pentium(R) CPU N3710 @ 1.60GHz
Memory	ACPI DDR3L 1600 8GBx1
HDD	Intel SSD S3500
OpenGL	6.51 fps
CPU	116 cb

Windows 8.1 64-bit

CPU	Intel(R) Pentium(R) CPU N3710 @ 1.60GHz
Memory	ACPI DDR3L 1600 8GBx1
HDD	Intel SSD S3500
OpenGL	6.50 fps
CPU	151 cb

Windows 10 64-bit

CPU	Intel(R) Pentium(R) CPU N3710 @ 1.60GHz
Memory	ACPI DDR3L 1600 8GBx1
HDD	Crucial CT120M500SSD3
OpenGL	6.50 fps
CPU	151 cb

Windows 10 64-bit

CPU	Intel(R) Atom(R) CPU X5-E8000 @ 1.04GHz
Memory	ACPI DDR3L 1600 8GBx1
HDD	Crucial CT120M500SSD3
OpenGL	8.35 fps
CPU	121 cb

5.7 GEEKBENCH3

Ubuntu 16.04 LTS 64Bit

CPU	Intel(R) Pentium(R) CPU N3710 @ 1.60GHz
Memory	ACPI DDR3L 1600 8GBx1
Single-Core score	977
Multi-Core score	3321
Result	link

Ubuntu 16.04 LTS 64Bit

CPU	Intel(R) AtomCPU X5-E8000 @ 1.04GHz
Memory	ACPI DDR3L 1600 8GBx1
Single-Core score	798
Multi-Core score	2677
Result	link

5.8 Storage Performance

5.8.1 HDD

Test environment:

OS Windows 7 (64Bit)

Program (HD Tune)

HDD Model	Interface	Capacity	Average	Burst Rate	Access time
INTEL SSDSC2BB120G4	SATA	120G	319.3 MB/s	124.3 MB/s	0.098ms
ADATA S102 PRO	USB3.0	32G	105.2 MB/s	61.9 MB/s	1.12ms
SanDisk CZ80 Extreme	USB3.0	64G	151.0 MB/s	72.0 MB/s	0.475ms
WD WD2500AAKS	SATA	250G	61.1 MB/s	147.8 MB/s	13.0ms

5.8.2 CD/DVD-ROM

Test environment:

OS Windows 7 (64Bit)

Program (NERO)

CD/DVD-ROM Model	Interface	Average Speed	Full Read	Burst Rate	DVD
Transcend DVD TS8XDVDS-K	USB	5.46x	210 ms	17 MB/s	1X -16 X DVD-R
LITEON eTAU108	USB	5.85x	191 ms	18 MB/s	1X -16 X DVD-R
Pioneer DVR-S19LBK-24X	SATA	10.88x	194 ms	39 MB/s	1X -16 X DVD-R
LITEON iHES312	SATA	11.68x	148 ms	43 MB/s	1X -16 X DVD-R