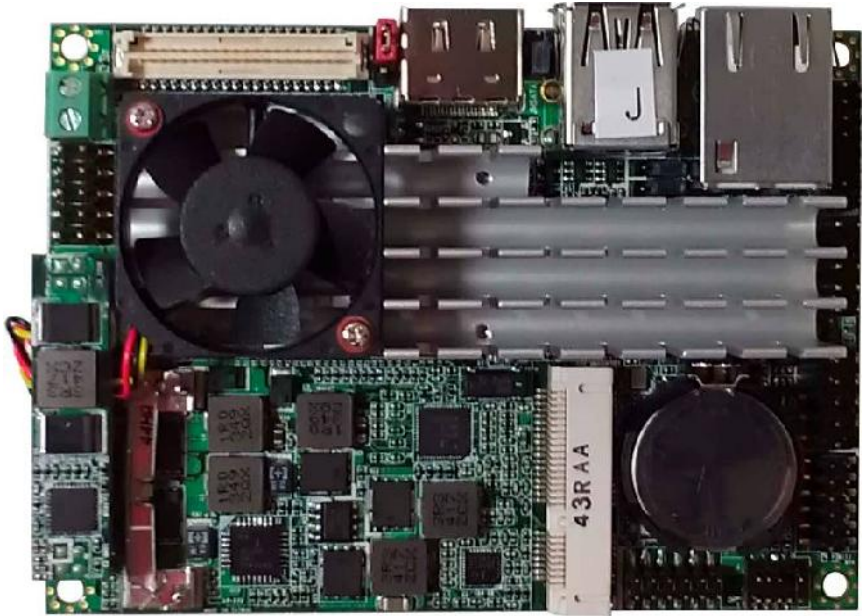


Product Test Report



Product Name	LP-173
Product Version	A
Issued Date	2014.11.19
Report Edition	1.1
BIOS Version	1.0
Testing Engineer	DE WEI
Check Engineer	RICK

REVISION HISTORY

DATE	REVISION NO.	PAGE	DESCRIPTONS
2014.11.19	VER. 1.0	28	Initial Release
2016.03.07	VER. 1.1	28	FIX MPX-954 & MPX-954E SUPPORT

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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	SO-DIMM	PASS	DDR3L
6	SATAII	PASS	
7	USB 3.0	PASS	
8	USB 2.0	PASS	
9	CN_USB1 (2.0)	PASS	
10	CN_COM 1/2	PASS	
11	PS/2	PASS	
12	CN_AUDIO	PASS	
13	CN_DIO	PASS	Use program "NTIO"
14	CN_LPC	PASS	ADP-TPM

15	CPUFAN	PASS	
16	SYSFAN	PASS	
17	Mini PCIe	PASS	MPX-9125, mSATA,
18	CN_CRT	PASS	
19	DVI	PASS	
20	CN_LVDS	PASS	LVDS2
21	CN_INV	PASS	
22	LAN	PASS	
23	DC_IN	PASS	
24	DC_OUT	PASS	

Jumper

Item	Description	Result
1	JRTC	PASS
2	JVLCD	PASS
3	JAT	PASS
4	JMSATA	PASS

1.2 BIOS function

Item	Description	Result	Remark
1	Press 'Del' to run Setup Utility	PASS	
2	BIOS update success	PASS	
3	Ctrl-Alt-Del – Soft-Reboot	PASS	
4	Save & Exit Setup	PASS	
5	Date & Time Setting	PASS	
6	Timeout	PASS	
7	NumLock	PASS	
8	Quick Boot	PASS	
9	Diagnostic Splash Screen	PASS	
10	Diagnostic Summary Screen	PASS	
11	BIOS Level USB	PASS	
12	Console Redirection	PASS	
13	View Error Manager Log	PASS	
14	Clear Error Manager Log	PASS	
15	Chipset SATA	PASS	
16	Interface Combination	PASS	IDE / AHCI
17	Boot Type	PASS	Auto: V CRT: V LVDS 2: V DVI: V

18	Audio Controller	PASS	HD AUDIO
19	Panel Color Depth	PASS	18 / 24 bit
20	BIA	PASS	
21	Serial Port 1/2	PASS	
22	PXE ROM	PASS	
23	Watch Dog Timer	PASS	
24	PowerLoss	PASS	Former state / Power on Power off
25	Power On By RTC Alarm	PASS	
26	Set Supervisor Password	PASS	
27	Set User password	PASS	
28	Authenticate User on Boot	PASS	
29	Set HDD User Password	PASS	
30	ADP-TPM	PASS	CN_LPC
31	VCORE, 3.3V, 5V, 12V, VBAT	PASS	
32	OS Install complete	PASS	

1.3 Driver

CD Edition : IPCI5-1.0

1. Windows Server 2008R2 64-bit Driver Test

Item	Description	Result	Version
1	Chipset Driver	N/A	
2	VGA Driver	PASS	10.18.10.3621
3	Audio Driver	PASS	6.0.1.6914
4	LAN Driver	PASS	12.11.97.0
5	USB 3.0 Driver	N/A	

2. Windows 7 32-bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	10.0
2	VGA Driver	PASS	35.15.0.1073
3	Audio Driver	PASS	6.0.1.6914
4	LAN Driver	PASS	12.11.97.0
5	USB 3.0 Driver	PASS	3.0.0.33

3. Windows 7 64-bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	10.0
2	VGA Driver	PASS	10.18.10.3621
3	Audio Driver	PASS	6.0.1.6914
4	LAN Driver	PASS	12.11.97.0
5	USB 3.0 Driver	PASS	3.0.0.33

4. Windows 8 32-bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	10.0
2	VGA Driver	PASS	35.15.0.1073
3	Audio Driver	PASS	6.0.1.6914
4	LAN Driver	PASS	12.11.97.0

5. Windows 8 64-bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	10.0
2	VGA Driver	PASS	10.18.10.3621
3	Audio Driver	PASS	6.0.1.6914
4	LAN Driver	PASS	12.11.97.0

6. Windows 8.1 32-bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	10.0
2	VGA Driver	PASS	35.15.0.1073
3	Audio Driver	PASS	6.0.1.6914
4	LAN Driver	PASS	12.11.97.0
5	Trusted Execution Engine Driver	PASS	1.0.0.1050

7. Windows 8.1 64-bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	10.0
2	VGA Driver	PASS	10.18.10.3621
3	Audio Driver	PASS	6.0.1.6914
4	LAN Driver	PASS	12.11.97.0
5	Trusted Execution Engine Driver	PASS	1.0.0.1050

8. Windows Server 2012R2 64-bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	10.0
2	VGA Driver	PASS	35.15.0.1073
3	Audio Driver	PASS	6.0.1.6914
4	LAN Driver	PASS	12.11.97.0
5	Trusted Execution Engine Driver	PASS	1.0.0.1050

2. Compatibility test

2.1 CPU Test

Test environment:

OS : Windows 7 32-bit

Test program : PC MARK 2006

Spec Code	CPU Speed	Family	Processor	Max TDP	Smart Cache	Result
SR1SC	2 GHz	Celeron	J1900	10W	2 MB	PASS
SR1RE	1.91 GHz	Atom	E3845	10W	2 MB	PASS
SR1W3	1.83 GHz	Celeron	N2930	7.5W	2 MB	PASS

2.2 Operation System Test

Item	Description	Result	Remark
1	Windows Server 2012R2 64-bit	PASS	
2	Windows 8.1 64-bit	PASS	
3	Windows 8.1 32-bit	PASS	
4	Windows 8 64-bit	PASS	
5	Windows 8 32-bit	PASS	
6	Windows 7 64-bit	PASS	
7	Windows 7 32-bit	PASS	
8	Windows Server 2008R2 64-bit	PASS	
9	Ubuntu 14.04	PASS	

2.3 Memory Test

Test environment:

OS : Windows 7 64-bit

Test program : PC MARK 2006

Manufacturer	Chip	Frequency	Capacity Mbytes	Result
Acpi	SKhynix H5TC4G83AFR	DDR3L 1600	8 GB	PASS
Transcend	SEC 234 HYK0 K4B4G0846B	DDR3L 1600	8 GB	PASS

Kingston	Micron 4EE77D9QBJ	DDR3L 1600	8 GB	PASS
Kingston	NANGA NT5CC512M8BN-DI	DDR3L 1600	4GB	PASS
Kingston	Kingston D512BEC4BPGG8U	DDR3L 1600	4GB	PASS

2.4 VGA Graphic Quality Test

Test environment:

OS : Windows 7 64-bit

Driver version : 10.18.10.3621

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

2.5 Audio

Test environment:

OS Windows 7 32-bit

Driver version : 6.0.1.6914

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

OS Windows 7 64-bit

Driver version : 6.0.1.6914

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

OS Windows 8 32-bit

Driver version : 6.0.1.6914

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

OS Windows 8 64-bit

Driver version : 6.0.1.6914

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

OS Windows 8.1 32-bit

Driver version : 6.0.1.6914

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

OS Windows 8.1 64-bit

Driver version : 6.0.1.6914

Item	Description	Result	Remark
1	2 CH	PASS	PASS

2	Microphone	PASS	PASS
---	------------	------	------

OS Windows Server 2012R2 64-bit

Driver version : 6.0.1.6914

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

OS Ubuntu 14.04

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

2.6 HDD Test

Test environment:

OS : Windows 7 64-bit

Model	Interface	Capacity	Size Detect	Data Transfer
InnoDisk 32GD6SC2QC	mSATA3	32 GB	PASS	PASS
Western Digital WD5000AAKX-22ERMA0	SATA3	500 GB	PASS	PASS
Western Digital WD5002AALX-00J37A0	SATA3	500 GB	PASS	PASS
Western Digital WD3200BPVT	SATA2	320 GB	PASS	PASS
HITACHI HTS543216L9A300	SATA2	160 GB	PASS	PASS

2.7 DVD-ROM Test

Test environment:

OS Windows 7 64-bit

Model	Interface	Detect	Data Transfer	Play DVD
LITE-ON ETAU108	USB	PASS	PASS	PASS
PIONEER DVR-XD11	USB	PASS	PASS	PASS
ZYNET HL-DT-ST DVD+-RW GT32N	USB	PASS	PASS	PASS
ASUS DRW-24DT1ST	SATA	PASS	PASS	PASS

2.8 USB device Test

1. Windows Server 2008R2 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	NO SUPPLY	

2. 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	

3. 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	

4. Windows 8.1 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 2012R2 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. Ubuntu 14.04

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

USB Mass storage	PASS	
------------------	------	--

2.9 Serial Port Test

1. MS-DOS

Item	Description	Result	Remark
1	CHKIT	PASS	

2. Windows 7 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 7 64-bit

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

4. Windows 8 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 8 64-bit

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

6. Windows 8.1 32-bit

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

7. Windows 8.1 64-bit

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

2.10 PS2 Keyboard 、 Mouse Test

1. MS-DOS

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

2. Windows server 2008 64-bit

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

3. 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	

4. 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	
---	-------------------	------	--

5. Windows 8.1 Enterprise 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 Server2012R2 64-bit

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

7. Ubuntu 14.04

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 7 32/64-bit

32/64-bit driver version : 12.11.97.0 (I210)

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

2. Windows 8 32/64-bit

32/64-bit driver version : 12.11.97.0 (I210)

Item	Description	Result	Remark
------	-------------	--------	--------

1	Device Manager Check	PASS	
2	Data Transfer Test	PASS	

3. Windows 8.1 32/64-bit

32/64-bit driver version : 12.11.97.0 (I210)

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

4. Ubuntu 14.04

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

2.12 Power Supply Test

Item	TYPE	Description	Result	Remark
1	ATX Power	Antec EA-650 650W	PASS	
2	ATX Power	AcBel PC7008 430W	PASS	
3	ATX Power	AcBel API3PC50 350W	PASS	
4	ATX Power	Snake PK-350W 350W	PASS	
5	ATX Power	CHANNEL WELL CWT300-ATX12 300W	PASS	
6	DC Power Supply	9306D Dual Tracking	PASS	
7	DC Power Supply	GWINSTEK SPS-3610	PASS	

2.13 mini PCI card

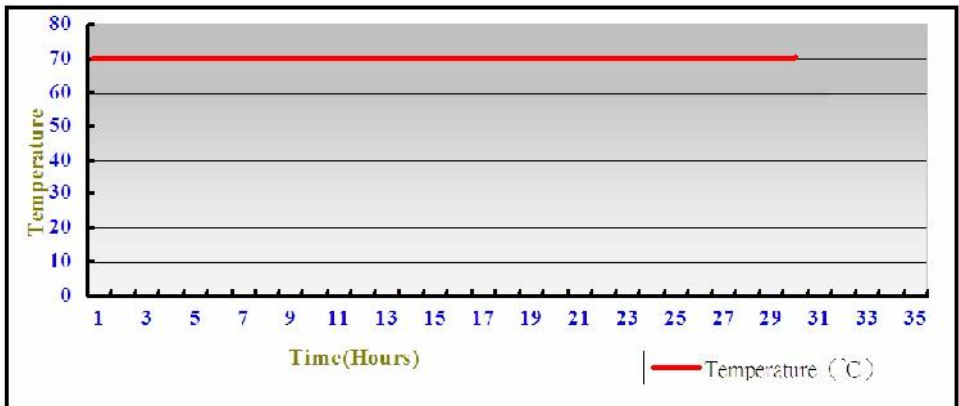
Motherboard	PCI Express mini card	Result	Remark
	MPX-210D	PASS	
	MPX-25858	NO SUPPLY	
	MPX-885	NO SUPPLY	

	MPX-643	PASS	
	MPX-954	PASS	
	MPX-954E	PASS	
	MPX-3132	ONLY OS' RAID	
	MPX-9125	PASS	
	mSATA	PASS	

3. Environmental test

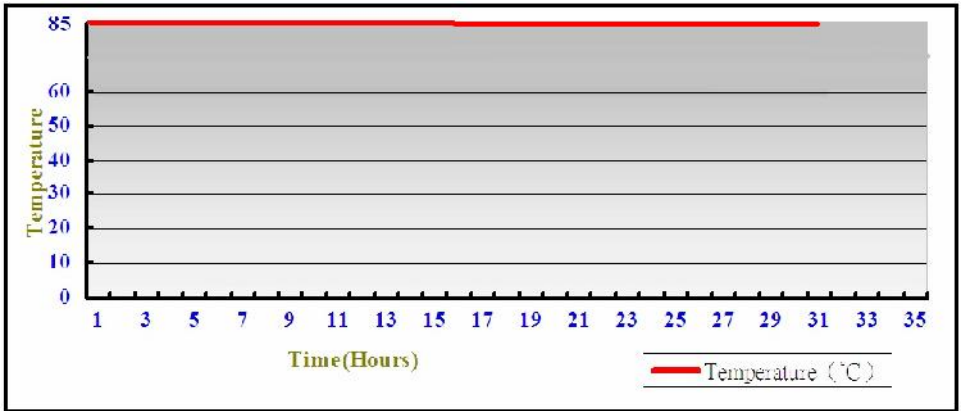
3.1 Temperature Test

System Board	LP-173
CPU	Intel® Celeron J1900
Memory	Transcend DDR3L 1600 4GB x1 (SEC 234 HYK0 K4B4G0846B)
HDD	Western Digital WD5000AAKX-22ERMA0
Operating OS	Windows 7 SP1 64-bit
Test Equipment	GIANT FORCE (GTH-150-60-CP-AR)
Test Program	3DMark06+Prime95-255a



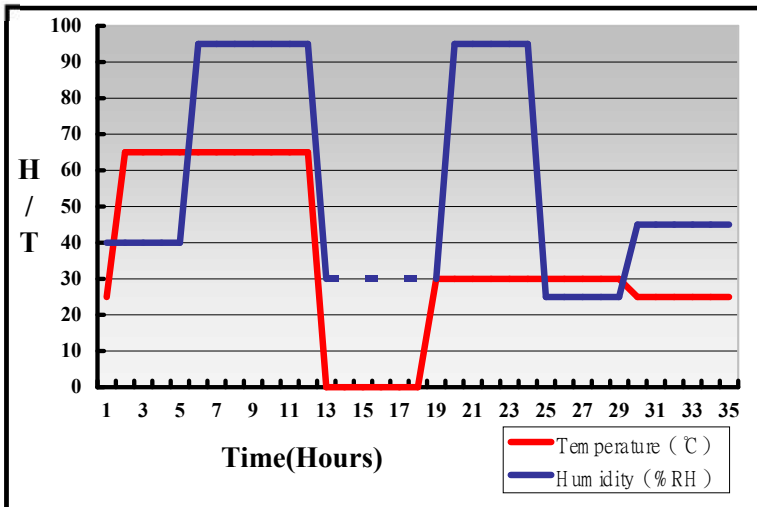
System Board	LP-173
CPU	Intel® Atom E3845
Memory	Transcend DDR3L 1600 4GB x1 (SEC 234 HYK0 K4B4G0846B)
HDD	Western Digital WD5000AAKX-22ERMA0

Operating OS	Windows 7 SP1 64-bit
Test Equipment	GIANT FORCE (GTH-150-60-CP-AR)
Test Program	3DMark06+Prime95-255a



Hardware Device list:

System Board	LP-173
CPU	Intel® Celeron J1900
Memory	Transcend DDR3L 1600 4GB x1 (SEC 234 HYK0 K4B4G0846B)
HDD	Western Digital WD5000AAKX-22ERMA0
Operating OS	Windows 7 SP1 64-bit
Test Equipment	GIANT FORCE (GTH-150-60-CP-AR)
Test Program	3DMark06+Prime95-255a



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	LP-173	
CPU	Intel® Celeron J1900	
Memory	Kingston DDR3L 1600 4GB x1 (Kingston D512BEC4BPGG8U)	
HDD	Western Digital WD5000AAKX-22ERMA0	
Operating OS	Windows 7 SP1 64-bit	
Temperature	Result	Remark
70	PASS	50 Times
- 40	PASS	50 Times

System Board	LP-173	
CPU	Intel® Atom E3845	
Memory	Kingston DDR3L 1600 4GB x1 (Kingston D512BEC4BPGG8U)	
HDD	Western Digital WD5000AAKX-22ERMA0	
Operating OS	Windows 7 SP1 64-bit	
Temperature	Result	Remark
85	PASS	50 Times
- 40	PASS	50 Times

3.2 Thermal measurements at various points on the board

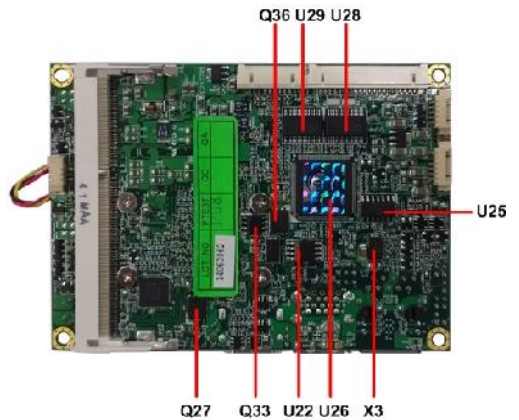
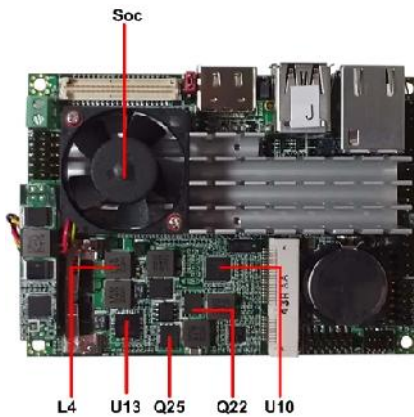
Test Environment :

CPU	Intel® Celeron J1900
Memory	Kingston DDR3L 1600 4G x1 (Kingston D512BEC4BPGG8U)
HDD	Western Digital WD3200BPVT
Power	AcBel ATX-350P-DNSS
Operating OS	Windows 7 64-bit
Test Program	3DMark 2006+Prime95-255a

Test Result:

Item	Environmental temperature	25
1	Soc(Fan Speed 4700 rpm)	38.8
2	L4 (LLC1.0UH/063T)	42.6

3	Q22 (TMSFDMS3669S)	46.1
4	Q25 (TMSFDMS3669S)	45.9
5	Q27 (TMSIRFH7914TRPBF)	48.5
6	Q33 (ICRT9173PS)	43.6
7	Q36 (TMSIRFH7914TRPBF)	46.7
8	U10 (ISL95831HRTZ)	46.5
9	U13 (ISL6537CR)	43.5
10	U22 (ICH25VF080B)	47.9
11	U25 (ITS74HC14)	48.1
12	U26 (ICNCT6102D)	47.8
13	U28 (ICADM213ECA-T)	43.4
14	U29 (ICADM213ECA-T)	45.9
15	X3 (OCR25S-FA)	48.5



4. Reliability Test

4.1 Power Consumption Test

1. Test Environment:

CPU	Intel® Celeron J1900
Memory	Kingston DDR3L 1600 4GB x1 (Kingston D512BEC4BPG8U)
HDD	Western Digital WD5002AAXL

Power Supply : 9306D Dual Tracking DC Power Supply

Voltage	MS-DOS Boot up		Win7(64Bit) 3DMark2006 + Prime95-255a	
	Current (A)	Power (W)	Current (A)	Power (W)
9V	1.38	12.4	2.25	20.3
12V	1.10	13.2	1.72	20.6

The same as above but with LCD panel

Display Panel	G150XG01 15"LCD
---------------	-----------------

Power Supply : 9306D Dual Tracking DC Power Supply

Voltage	MS-DOS Boot up		Win7(64Bit) 3DMark2006 + Prime95-255a	
	Current (A)	Power (W)	Current (A)	Power (W)
9V	1.41	12.7	2.85	25.7
12V	1.03	12.4	2.15	25.8

Test Environment:

CPU	Intel® Celeron J1900
Memory	Kingston DDR3L 1600 8GB x1 (Kingston D512BEC4BPGG8U)
HDD	Western Digital WD5002AAXL

Power Supply : SWITCHING MC-B350ATX

Voltage	MS-DOS Boot up		Win7(64Bit) 3DMark2006 + Prime95-255a	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	0.64	7.68	1.80	21.6

The same as above but with LCD panel

Display Panel	AUO G150XG01 15"LCD
---------------	---------------------

Power Supply : SWITCHING MC-B350ATX

Voltage	MS-DOS Boot up		Win7(64Bit) 3DMark06 + Prime95-255a	
	Current (A)	Power (W)	Current (A)	Power (W)
12V	0.98	11.8	2.15	25.8

2. Test Environment:

CPU	Intel® Atom E3845
Memory	Kingston DDR3L 1600 4GB x1 (Kingston D512BEC4BPGG8U)
HDD	HITACHI HTS543216L9A300

Power Supply : GWINSTEK SPS-3610

Voltage	MS-DOS Boot up		Win7(64Bit) 3DMark2006 + Prime95-255a	
	Current (A)	Power (W)	Current (A)	Power (W)
9V	0.67	6.03	1.65	14.85
12V	0.49	5.88	1.30	15.60
27V	0.29	7.83	0.60	16.20

The same as above but with LCD panel

Display Panel	G150XG01 15"LCD
---------------	-----------------

Power Supply : GWINSTEK SPS-3610

Voltage	MS-DOS Boot up		Win7(64Bit) 3DMark2006 + Prime95-255a	
	Current (A)	Power (W)	Current (A)	Power (W)
9V	1.25	11.25	2.20	19.80
12V	0.95	11.40	1.66	19.92
27V	0.44	11.88	0.76	20.52

5. Performance Test

5.1 Performance Test 8.0

Windows 7 SP1 64-bit

Test Environment		
CPU	Intel® Celeron J1900	
Memory	Kingston DDR3L 1600 4G x1 (Kingston D512BEC4BPGG8U)	
HDD	HITACHI HTS543216L9A300	
Test Program	Performance Test 8.0	
WEIGHTED SUITE	Result	Score
PassMark Rating	PASS	670
CPU Mark	PASS	2006
2D Graphics Mark	PASS	242.6
3D Graphics Mark	PASS	154.2
Memory Mark	PASS	771
Disk Mark	PASS	410.8

Test Environment			
CPU	Intel® Celeron N2930		
Memory	Kingston DDR3L 1600 4G x1		
HDD	HITACHI HTS543216L9A300		
Test Program	Performance Test 8.0		
WEIGHTED SUITE		Result	Score
PassMark Rating		PASS	663.2
CPU Mark		PASS	1850
2D Graphics Mark		PASS	217.1
3D Graphics Mark		PASS	153.5
Memory Mark		PASS	754
Disk Mark		PASS	426.6
Test Environment			
CPU	Intel® Atom E3845		
Memory	Kingston DDR3L 1600 4G x1 (Kingston D512BEC4BPGG8U)		
HDD	HITACHI HTS543216L9A300		
Test Program	Performance Test 8.0		
WEIGHTED SUITE		Result	Score
PassMark Rating		PASS	554.7
CPU Mark		PASS	1671
2D Graphics Mark		PASS	193.5
3D Graphics Mark		PASS	N/A
Memory Mark		PASS	716
Disk Mark		PASS	405.6

5.2 3DMark

Windows 7 64-bit

Test Environment				
CPU	Intel® Celeron J1900			
Memory	Kingston DDR3L 1600 4G x1 (Kingston D512BEC4BPGG8U)			
HDD	HITACHI HTS543216L9A300			
WEIGHTED SUITE		Result	Score	Remark
3DMark05				
3DMarks		PASS	3815	
CPU		PASS	9965	
3DMark06				
3DMarks		PASS	2617	
SM2.0		PASS	886	
HDR/SM3.0		PASS	912	
CPU		PASS	2345	
3DMarkVantage				

3DMark	PASS	NA	
GPU	PASS	1003	
CPU	PASS	5162	
3DMark11			
3DMark	PASS	NA	
Graphics	PASS	404	
Physics	PASS	1909	
Combined	PASS	393	
3DMark (2013)			
FIRE STRIKE 1.1	PASS	NA	
CLOUD GATE 1.1	PASS	1878	
ICE STORM 1.1	PASS	20594	
Test Environment			
CPU	Intel® Atom E3845		
Memory	Kingston DDR3L 1600 4G x 1 (Kingston D512BEC4BPGG8U)		
HDD	HITACHI HTS543216L9A300		
WEIGHTED SUITE	Result	Score	Remark
3DMark05			
3DMarks	PASS	3348	
CPU	PASS	8180	
3DMark06			
3DMarks	PASS	2268	
SM2.0	PASS	726	
HDR/SM3.0	PASS	938	
CPU	PASS	1867	
3DMarkVantage			
N/A			
3DMark11			
N/A			
3DMark (2013)			
N/A			
Test Environment			
CPU	Intel® Celeron N2930		
Memory	Kingston DDR3L 1600 4G x 1 (Kingston D512BEC4BPGG8U)		
HDD	HITACHI HTS543216L9A300		
WEIGHTED SUITE	Result	Score	Remark
3DMark05			
3DMarks	PASS	3766	
CPU	PASS	9540	
3DMark06			
3DMarks	PASS	2464	
SM2.0	PASS	810	
HDR/SM3.0	PASS	994	

CPU	PASS	2170	
3DMarkVantage			
3DMark	N/A		
GPU	PASS	993	
CPU	PASS	4814	
3DMark11			
3DMark	PASS	E467	
Graphics	PASS	395	
Physics	PASS	1820	
Combined	PASS	387	
3DMark (2013)			
FIRE STRIKE 1.1	N/A		
CLOUD GATE 1.1	PASS	1538	
ICE STORM 1.1	PASS	19702	

5.3 PCMark

Windows 7 SP1 64-bit

Test Environment			
CPU	Intel® Celeron J1900		
Memory	Kingston DDR3L 1600 4G x 1 (Kingston D512BEC4BPGG8U)		
HDD	HITACHI HTS543216L9A300		
WEIGHTED SUITE	Result	Score	Remark
PCMark2005			
3DMarks	PASS	4627	
Test Environment			
CPU	Intel® Atom E3845		
Memory	Kingston DDR3L 1600 4G x 1 (Kingston D512BEC4BPGG8U)		
HDD	HITACHI HTS543216L9A300		
WEIGHTED SUITE	Result	Score	Remark
PCMark2005			
N/A			
Test Environment			
CPU	Intel® Celeron N2930		
Memory	Kingston DDR3L 1600 4G x 1 (Kingston D512BEC4BPGG8U)		
HDD	HITACHI HTS543216L9A300		
WEIGHTED SUITE	Result	Score	Remark
PCMark2005			
3DMarks	PASS	4330	

5.4 AQUAMARK3

Windows 7 64-bit

Test Environment			
CPU	Intel® Celeron J1900		
Memory	Kingston DDR3L 1600 4G x1 (Kingston D512BEC4BPGG8U)		
HDD	HITACHI HTS543216L9A300		
WEIGHTED SUITE	Result	Sorce	Remark
GFX	PASS	6335	
CPU	PASS	4512	
Test Environment			
CPU	Intel® Atom E3845		
Memory	Kingston DDR3L 1600 4G x1 (Kingston D512BEC4BPGG8U)		
HDD	HITACHI HTS543216L9A300		
WEIGHTED SUITE	Result	Sorce	Remark
GFX	PASS	6060	
CPU	PASS	3937	
Test Environment			
CPU	Intel® Celeron N2930		
Memory	Kingston DDR3L 1600 4G x1 (Kingston D512BEC4BPGG8U)		
HDD	HITACHI HTS543216L9A300		
WEIGHTED SUITE	Result	Sorce	Remark
GFX	PASS	6156	
CPU	PASS	4121	

5.5 CINEBENCH R15

Windows 7 64-bit

Test Environment			
CPU	Intel® Celeron J1900		
Memory	Kingston DDR3L 1600 4G x1 (Kingston D512BEC4BPGG8U)		
HDD	HITACHI HTS543216L9A300		
WEIGHTED SUITE	Result	Sorce	Remark
OpenGL	PASS	5.99 fps	
CPU	PASS	136 cb	
Test Environment			
CPU	Intel® Atom E3845		
Memory	Kingston DDR3L 1600 4G x1 (Kingston D512BEC4BPGG8U)		
HDD	HITACHI HTS543216L9A300		
WEIGHTED SUITE	Result	Sorce	Remark
OpenGL	PASS	5.56 fps	
CPU	PASS	129 cb	
Test Environment			

CPU	Intel® Celeron N2930		
Memory	Kingston DDR3L 1600 4G x1 (Kingston D512BEC4BPGG8U)		
HDD	HITACHI HTS543216L9A300		
WEIGHTED SUITE	Result	Score	Remark
OpenGL	PASS	5.4 fps	
CPU	PASS	134 cb	

5.6 ZD CPUMARK

Windows 7 64-bit

Test Environment			
CPU	Intel® Celeron J1900		
Memory	Kingston DDR3L 1600 4G x1 (Kingston D512BEC4BPGG8U)		
HDD	HITACHI HTS543216L9A300		
Result	Score	Remark	
PASS	198		
Test Environment			
CPU	Intel® Atom E3845		
Memory	Kingston DDR3L 1600 4G x1 (Kingston D512BEC4BPGG8U)		
HDD	HITACHI HTS543216L9A300		
Result	Score	Remark	
PASS	164		
Test Environment			
CPU	Intel® Celeron N2930		
Memory	Kingston DDR3L 1600 4G x1 (Kingston D512BEC4BPGG8U)		
HDD	HITACHI HTS543216L9A300		
Result	Score	Remark	
PASS	185		

5.7 Storage Performance

5.7.1 HDD

Test environment:

OS Windows 7 64-bit

Program (HD Tune)

HDD Model	Interface	Capacity (GB)	Average (MB/s)	Burst Rate(MB/s)	Access time (ms)
InnoDisk 32GD6SC2QC	mSATA3	32	163.8	160.1	0.2
Western Digital WD5002AALX-00J37A0	SATA3	500	104.5	123.3	16.8

HITACHI HTS543216L9A300	SATA2	160	44.3	98.5	17.9
Western Digital WD3200BPVT	SATA2	320	82	69.9	19.8
ADATA UV128	USB 3.0	32	100	48.7	0.7
KingstonDT HyperX 3.0	USB 3.0	64	189.4	77.7	0.9
Kingston DataTraveler	USB 2.0	16	19.4	14.6	0.7
ScanDisk Cruzer Blade	USB 2.0	8	22.4	16.6	1.2

5.7.2 DVD-ROM

Test environment:

OS Windows7 64-bit

Program : NERO 4.7.7.15

CD-ROM Model	Interface	Average Speed	Access times (Full Read, ms)	Burst Rate (MB/s)	DVD
ASUS DRW-24DT1ST	SATA	8.08X	205	35	16x
ASUS DWR-1814BLT	SATA	8.05X	588	35	16x
LITEON DVD iHES312	SATA	10.86X	160	40	16x
PIONEER DVR-XD11	USB	5.57X	188	21	16x
LITEON DVD ETAU108	USB	5.53X	241	23	16x
ZYNET HL-DT-ST DVDRW	USB	5.13X	361	16	16x