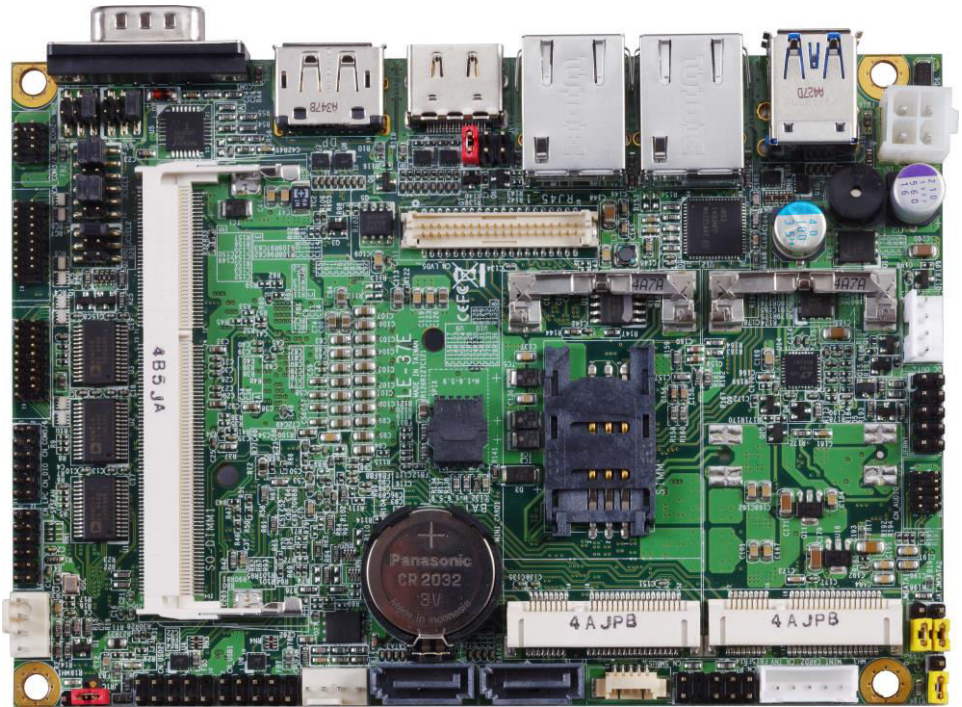


# Product Test Report



<b>Product Name</b>	<b>LE-37E</b>
<b>Product Version</b>	<b>A</b>
<b>Issued Date</b>	<b>2015.11.02</b>
<b>Revision No.</b>	<b>1.0</b>
<b>BIOS Version</b>	<b>1.0</b>
<b>Testing Engineer</b>	<b>Rick</b>
<b>Check Engineer</b>	<b>Jerry</b>

<b>Revision History</b>			
<b>Date</b>	<b>Revision NO.</b>	<b>Page</b>	<b>Description</b>
<b>2015.11.02</b>	<b>Ver. 1.0</b>	<b>26</b>	<b>Initial Release</b>

# Index

<b>1.Function test</b> .....	<b>5</b>
1.1 Hardware function .....	5
1.2 BIOS function .....	6
1.3 Driver .....	7
<b>2. Compatibility test</b> .....	<b>8</b>
2.1 CPU Test.....	8
2.2 Operation System Test .....	8
2.3 Memory Test .....	8
2.4 Display Port and DVI Graphic Quality Test.....	9
2.5 Audio .....	10
2.6 HDD Test .....	11
2.7 DVD-ROM Test .....	12
2.8 USB device Test .....	12
2.9 Serial Port Test .....	13
2.10 PS2 Keyboard 、 Mouse Test.....	14
2.11 LAN Test .....	15
2.12 Power Supply Test .....	16
2.13 Mini PCIE card .....	16
<b>3. Environmental test</b> .....	<b>18</b>
3.1 Temperature Test.....	18
3.2 Thermal measurements at various points on the board .....	20
<b>4.Reliability Test</b> .....	<b>22</b>
4.1 Power Consumption Test .....	22
<b>5. Performance Test</b> .....	<b>24</b>
5.1 3DMark .....	24
5.2 PCMark .....	26
5.3 Storage Performance .....	27

# 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	
6	SATAIII	PASS	
7	USB 3.0	PASS	
8	USB 2.0	PASS	
9	COM 1/2/3/4/5/6	PASS	
10	CN_PS2	PASS	
11	CN_AUDIO	PASS	
12	CN_DIO	PASS	
13	CN_LPC	PASS	ADP-TPM
14	CPUFAN	PASS	
15	SYSFAN	PASS	
16	MINI CARD 1/2	PASS	
17	DVI	PASS	
18	CN_DVI	PASS	
19	CN_LVDS	PASS	
20	CN_INV	PASS	
21	Display Port	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	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	Chipset SATA	PASS	
10	Interface Combination	PASS	AHCI / RAID
11	Boot Type	PASS	Auto / LVDS / DVI / DP
12	Audio Controller	PASS	HD AUDIO
13	Panel Color Depth	PASS	18 / 24 bit
14	Serial Port	PASS	
15	PCH Internal LAN	PASS	
16	PXE ROM	PASS	
17	Wake on PCH LAN	PASS	
18	CPU Shutdown Temp	PASS	
19	Watch Dog Timer	PASS	
20	PowerLoss	PASS	Power On / Off
21	Power On By RTC Alarm	PASS	
22	Set Supervisor Password	PASS	
23	Set User password	PASS	
24	Chipset SATA	PASS	
25	Set HDD User Password	PASS	
26	ADP-TPM	PASS	CN_LPC
27	VCORE, 3.3V, 5V, 12V, VBAT	PASS	
28	OS Install complete	PASS	

## 1.3 Driver

### CD Edition : DIPCi1-1.3

#### 1. Windows 7 32-bit Driver Test

Item	Description	Result	Version
1	Chipset Driver	PASS	10.0
2	VGA Driver	PASS	10.18.14.4170
3	Audio Driver	PASS	6.0.1.6662
4	LAN Driver	PASS	12.12.80.19

#### 2. Windows 7 64-bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	10.0
2	VGA Driver	PASS	10.18.14.4170
3	Audio Driver	PASS	6.0.1.6873
4	LAN Driver	PASS	12.12.80.19

#### 3. Windows 8 32-bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	10.0
2	VGA Driver	PASS	10.18.14.4170
3	Audio Driver	PASS	6.0.1.6662
4	LAN Driver	PASS	12.12.80.19

#### 4. Windows 8 64-bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	10.0
2	VGA Driver	PASS	10.18.14.4170
3	Audio Driver	PASS	6.0.1.6873
4	LAN Driver	PASS	12.12.80.19

#### 5. Windows 8.1 32-bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	10.0
2	VGA Driver	PASS	10.18.14.4170
3	Audio Driver	PASS	6.0.1.7240
4	LAN Driver	PASS	12.12.80.19

#### 6. Windows 8.1 64-bit Driver Test

Item	Description	Result	version
1	Chipset Driver	PASS	10.0
2	VGA Driver	PASS	10.18.14.4170
3	Audio Driver	PASS	6.0.1.7240
4	LAN Driver	PASS	12.12.80.19

## 2. Compatibility test

### 2.1 CPU Test

Test environment:

OS : Windows 7 32-bit

Test program : PC MARK 2006

Link	CPU Speed	Family	Processor	Max TDP	Smart Cache	Result
<a href="#">SR23Z</a>	2.10 GHz	Core	i3-5010U	15 W	3 MB	PASS
<a href="#">SR268</a>	2.90 GHz	Core	i5-5350U	15 W	3 MB	PASS
<a href="#">SR267</a>	3.20 GHz	Core	i7-5650U	15 W	4 MB	PASS

### 2.2 Operation System Test

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

### 2.3 Memory Test

Test environment:

OS : Windows 7 32-bit

Test program : PC MARK 2006

Manufacturer	Chip	Frequency	Capacity Mbytes	Result
Acpi	SKhynix H5TC4G83AFB	DDR3L 1600	8 GB	PASS
Kingston	SKhynix H5TC4G83AFB	DDR3L 1600	8 GB	PASS
Kingston	NANGA NT5CC512M8BN-DI	DDR3L 1600	4 GB	PASS

<b>CERVOZ</b>	<b>ISSI TS43TR82560BL</b>	<b>DDR3L 1066</b>	<b>4 GB</b>	<b>PASS</b>
---------------	-------------------------------	-------------------	-------------	-------------

## 2.4 Display Port and DVI Graphic Quality Test

Test environment OS : Windows 7 32/64-bit

Driver version : 10.18.14.4170

<b>Resolution</b>	<b>Color</b>	<b>DP</b>	<b>HDMI</b>	<b>Remark</b>
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 : 6.0.1.6662

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	

OS Windows 7 64-bit

Driver version : 6.0.1.6873

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	

OS Windows 8 32-bit

Driver version : 6.0.1.6662

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	

OS Windows 8 64-bit

Driver version : 6.0.1.6873

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	

OS Windows 8.1 32-bit

Driver version : 6.0.1.6662

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	

OS Windows 8.1 64-bit

Driver version : 6.0.1.6873

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	

OS Windows Server 2008R2 64-bit

Driver version : 6.0.1.6914

Item	Description	Result	Remark
1	2 CH	PASS	

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

## 2.6 HDD Test

Test environment:

OS : Windows 7 32-bit

Model	Interface	Capacity	Size Detect	Data Transfer
InnoDisk 32GD6SC2QC	mSATA3	32 GB	PASS	PASS
Crucial CT120M500SSD3	mSATA3	120 GB	PASS	PASS
Seagate ST3160815AS	SATA2	160 GB	PASS	PASS
Western Digital WD2500BPVT-22J5T0	SATA2	250 GB	PASS	PASS
Western Digital WD2500AAKS-00VYA0	SATA2	250 GB	PASS	PASS
Western Digital WD3200BEKT-00F3T0	SATA2	320 GB	PASS	PASS
Western Digital WD10EZEX-00RKKA0	SATA3	1 TB	PASS	PASS
Western Digital WD10EZAX-RRKKA0	SATA3	1 TB	PASS	PASS

## 2.7 DVD-ROM Test

Test environment:

OS Windows 7 32-bit

Model	Interface	Detect	Data Transfer	Play DVD
LITE-ON ETAU108	USB	PASS	PASS	PASS

<b>ASUS DRW-24DT1ST</b>	<b>SATA</b>	PASS	PASS	PASS
<b>PIONEER DVR-219L</b>	<b>SATA</b>	PASS	PASS	PASS
<b>LITE-ON iHES312</b>	<b>SATA</b>	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	PASS	

### 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	

### 4. 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	

### 5. 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	

## 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 32-bit

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

### 4. Windows 8 64-bit

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

### 5. Windows 8.1 32-bit

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

### 6. Windows 8.1 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	

### 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 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 8.1 Enterprise 32/64-bit

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

### 5. Windows Server2008R2 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 7 32/64-bit

32/64-bit driver version :

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 :

Item	Description	Result	Remark
1	Device Manager Check	PASS	

### 3. Windows 8.1 32/64-bit

32/64-bit driver version

Item	Description	Result	Remark
1	Device Manager Check	PASS	

## 2.12 Power Supply Test

Item	TYPE	Description	Result	Remark
1	Adapter	LI SHIN 12V 80W LI SHIN 0279B1280	PASS	
2	Adapter	FSP GROUP INC. FSP120-AAA 19V 120W	PASS	
3	ATX Power	AcBel PC7008 430W	PASS	
4	ATX Power	SEED BS400 400W	PASS	
5	ATX Power	MOREX PS3-200CP 190W	PASS	

## 2.13 Mini PCIE card

Motherboard	PCI Express mini card	Result	Remark
LE-37E ( Win7 )	MPX-210D2	PASS	
	MPX-574D	PASS	
	MPX-574D2	PASS	
	MPX-643	PASS	
	MPX-750	N/A	
	MPX-827	PASS	
	MPX-885	PASS	
	MPX-954	PASS	
	MPX-3132	PASS	
	MPX-6864	PASS	
	MPX-5201	PASS	
	MPX-7202	PASS	
	MPX-9125	PASS	
	MPX-24794G2	PASS	
	MPX-25858	PASS	
MPX-SDVOD	N/A		
mSATA	PASS		

Attention: Need to set the BIOS first before use

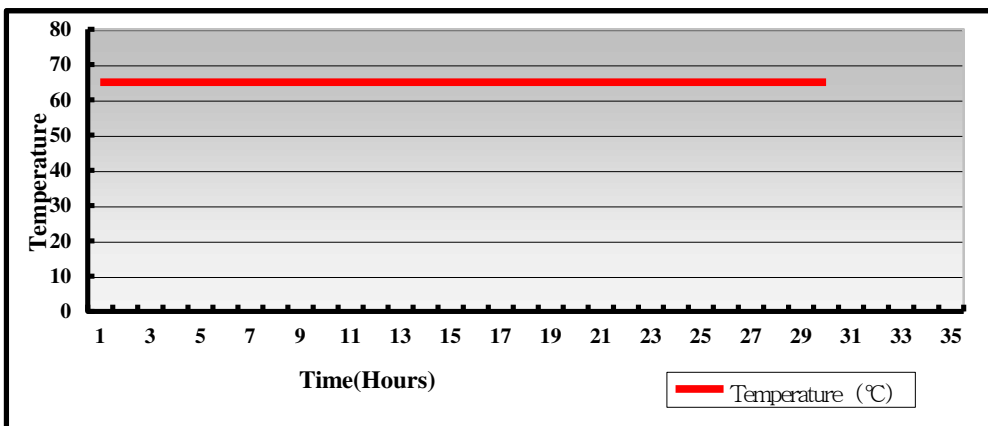
- => Advanced
- => South Bridge Configuration
- => SB PCI Express Config
- => PCI Express Root Port 1 & 3
- => PCIe Speed [Gen1]

For more setup information, please refer MPX-3132 user's manual.

### 3. Environmental test

#### 3.1 Temperature Test

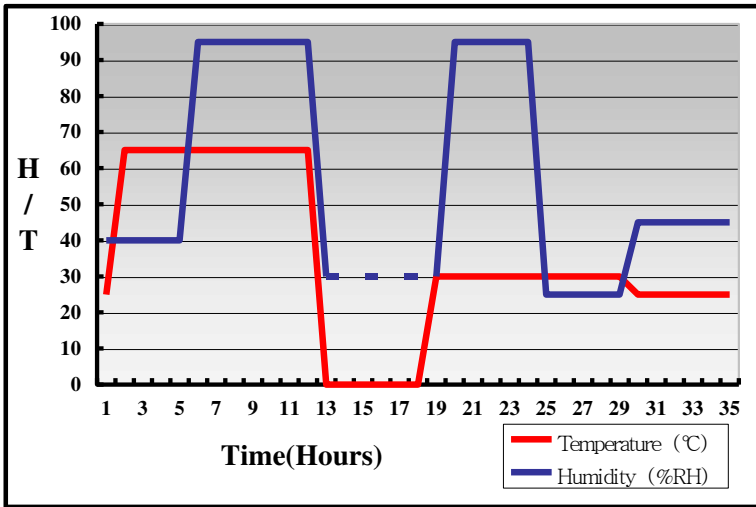
System Board	LE-37E
CPU	Intel(R) Core(TM) i7-5650U 2.20GHz
Memory	ACPI DDR3L 1600 8GB (SK H5TC4GB3AFB)
HDD	Western Digital WD3200BEKT-00F3T0 320GB
Operating OS	Windows 7 32-bit
Test Equipment	GIANT FORCE (GTH-150-60-CP-AR)
Test Program	3DMark06+Prime95





## Hardware Device list:

System Board	LE-37E
CPU	Intel(R) Core(TM) i7-5650U 2.20GHz
Memory	ACPI DDR3L 1600 8GB (SK H5TC4GB3AFB)
HDD	Western Digital WD3200BEKT-00F3T0 320GB
Operating OS	Windows 7 32-bit
Test Equipment	GIANT FORCE (GTH-150-60-CP-AR)
Test Program	3DMark06+Prime95



**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	LE-37E
CPU	Intel(R) Core(TM) i7-5650U 2.20GHz
Memory	ACPI DDR3L 1600 8GB (SK H5TC4GB3AFB)
HDD	Western Digital WD3200BEKT-00F3T0 320GB
Operating OS	Windows 7 32-bit

Temperature	Result	Remark
85°C	PASS	50 Times
- 40°C	PASS	50 Times

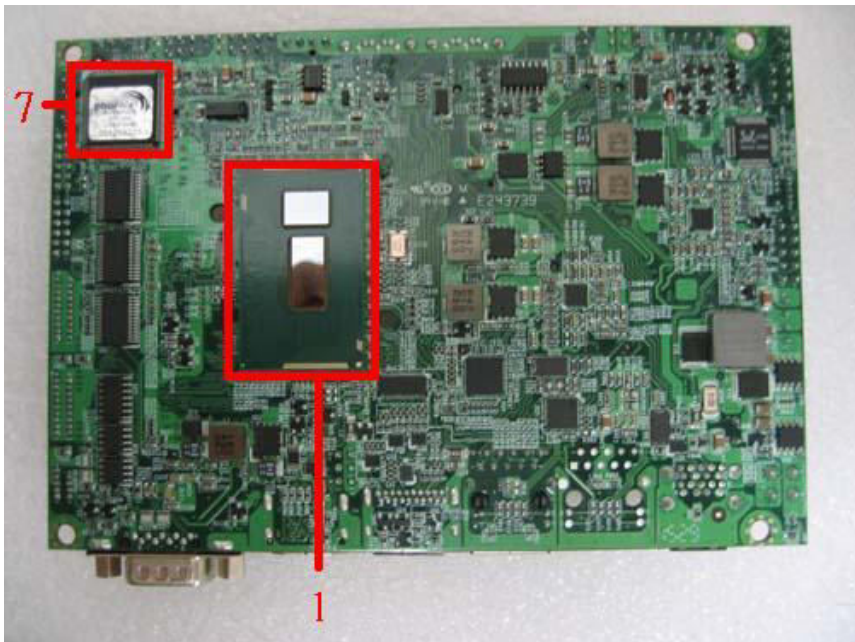
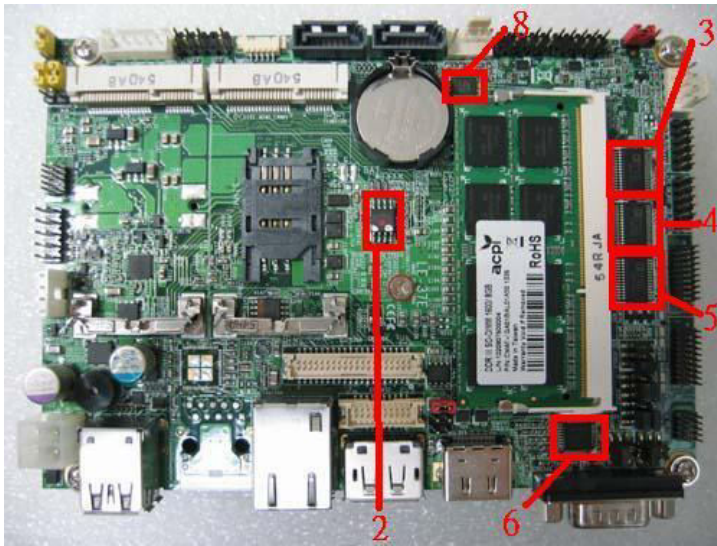
## 3.2 Thermal measurements at various points on the board

### Test Environment :

CPU	Intel(R) Core(TM) i7-5650U 2.20GHz
Memory	ACPI DDR3L 1600 8GB (SK H5TC4GB3AFB)
HDD	Western Digital WD2500BPVT-22JJ5T0 250GB
Adapter	LI SHIN 0219B1280
Operating OS	Windows 7 32-bit
Test Program	BurnIn 6.0

### Test Result:

Item	Environmental temperature	25°C
1	CPU	53°C
2	SPI (ICW25Q128FVSIG)	47°C
3	U1 (ICADM213ECA-T)	49.5°C
4	U2 (ICADM213ECA-T)	48.6°C
5	U3 (ICADM213ECA-T)	47.9°C
6	U5 (ISL6537CR)	46.7°C
7	U23 (ICNCT6106D)	47.8°C
8	Q27 (TMSIRFH7914TRPBF)	48.9°C
9	Heatsink	47.7°C





9

## 4. Reliability Test

### 4.1 Power Consumption Test

#### 1. Test Environment:

CPU	Intel(R) Core(TM) i7-5650U 2.20GHz
Memory	ACPI DDR3L 1600 8GB (SK H5TC4GB3AFB)
HDD	Western Digital WD2500BPVT-22JJ5T0 250GB

Adapter : 12V => LI SHIN 0279B1280 ; 19V => FSP120-AAA

Voltage	MS-DOS Boot up		Win7(32Bit) 3DMark2006 + Prime95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
12V	1.27	15.24	1.77	21.24
19V	0.88	16.72	1.32	25.08

The same as above but with LCD panel

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

Adapter : 12V => LI SHIN 0279B1280 ; 19V => FSP120-AAA

Voltage	MS-DOS Boot up		Win7(32Bit) 3DMark2006 + Prime95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
12V	2.94	35.28	3.64	43.68
19V	1.97	37.43	2.37	45.03

## 2. Test Environment:

CPU	Intel(R) Core(TM) i5-5350U 1.80GHz
Memory	ACPI DDR3L 1600 8GB (SK H5TC4GB3AFB)
HDD	Western Digital WD2500BPVT-22JJ5T0 250GB

Adapter : 12V => LI SHIN 0279B1280 ; 19V => FSP120-AAA

Voltage	MS-DOS Boot up		Win7(32Bit) 3DMark2006 + Prime95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
12V	1.11	13.32	1.8	21.6
19V	0.82	15.58	1.16	22.04

The same as above but with LCD panel

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

Adapter : 12V => LI SHIN 0279B1280 ; 19V => FSP120-AAA

Voltage	MS-DOS Boot up		Win7(32Bit) 3DMark2006 + Prime95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
12V	2.9	34.8	3.6	43.2
19V	1.87	35.53	2.31	43.89

## 3. Test Environment:

CPU	Intel(R) Core(TM) i3-5010U 2.10GHz
Memory	ACPI DDR3L 1600 8GB (SK H5TC4GB3AFB)
HDD	Western Digital WD2500BPVT-22JJ5T0 250GB

Adapter : 12V => LI SHIN 0279B1280 ; 19V => FSP120-AAA

Voltage	MS-DOS Boot up		Win7(32Bit) 3DMark2006 + Prime95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
12V	1.21	14.52	1.74	20.88

19V	0.81	15.39	1.11	21.09
-----	------	-------	------	-------

The same as above but with LCD panel

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

Adapter : 12V => LI SHIN 0279B1280 ; 19V => FSP120-AAA

Voltage	MS-DOS Boot up		Win7(32Bit) 3DMark2006 + Prime95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
12V	2.83	33.96	3.53	42.36
19V	1.73	32.87	2.17	41.23

## 5. Performance Test

### 5.1 3DMark

Windows 7 32-bit

Test Environment				
CPU	Intel(R) Core(TM) i7-5650U 2.20GHz			
Memory	ACPI DDR3L 1600 8GB (SK H5TC4GB3AFB)			
HDD	Western Digital WD2500BPVT-22JJ5T0 250GB			
Weighted Suite	Result	Score	Remark	
3DMark05				
3DMarks	PASS	7672		
CPU	PASS	2094		
3DMark06				
3DMarks	PASS	4935		
SM2.0	PASS	1717		
HDR/SM3.0	PASS	2104		
CPU	PASS	2435		
3DMarkVantage				
3DMark	PASS	P3024		
GPU	PASS	2555		
CPU	PASS	6719		
Test Environment				
CPU	Intel(R) Core(TM) i5-5350U 1.80GHz			
Memory	ACPI DDR3L 1600 8GB (SK H5TC4GB3AFB)			
HDD	Western Digital WD2500BPVT-22JJ5T0 250GB			
Weighted Suite	Result	Score	Remark	
3DMark05				

<b>3DMarks</b>	PASS	6652	
<b>CPU</b>	PASS	1799	
<b>3DMark06</b>			
<b>3DMarks</b>	PASS	4614	
<b>SM2.0</b>	PASS	1599	
<b>HDR/SM3.0</b>	PASS	1899	
<b>CPU</b>	PASS	2691	
<b>3DMarkVantage</b>			
<b>3DMark</b>	PASS	P2893	
<b>GPU</b>	PASS	2416	
<b>CPU</b>	PASS	7107	
<b>Test Environment</b>			
<b>CPU</b>	Intel(R) Core(TM) i3-5010U 2.10GHz		
<b>Memory</b>	ACPI DDR3L 1600 8GB (SK H5TC4GB3AFB)		
<b>HDD</b>	Western Digital WD2500BPVT-22JJ5T0 250GB		
<b>Weighted Suite</b>	<b>Result</b>	<b>Score</b>	<b>Remark</b>
<b>3DMark05</b>			
<b>3DMarks</b>	PASS	7514	
<b>CPU</b>	PASS	2094	
<b>3DMark06</b>			
<b>3DMarks</b>	PASS	5035	
<b>SM2.0</b>	PASS	1754	
<b>HDR/SM3.0</b>	PASS	2123	
<b>CPU</b>	PASS	2581	
<b>3DMarkVantage</b>			
<b>3DMark</b>	PASS	P3096	
<b>GPU</b>	PASS	2602	
<b>CPU</b>	PASS	7180	
<b>Test Environment</b>			
<b>CPU</b>	Intel(R) Core(TM) i3-5010U 2.10GHz		
<b>Memory</b>	Kingston DDR3L 1600 8GB (SK hynix H5TC4GB3AFB)		
<b>HDD</b>	Western Digital WD2500BPVT-22JJ5T0 250GB		
<b>Weighted Suite</b>	<b>Result</b>	<b>Score</b>	<b>Remark</b>
<b>3DMark05</b>			
<b>3DMarks</b>	PASS	7612	
<b>CPU</b>	PASS	2094	
<b>3DMark06</b>			
<b>3DMarks</b>	PASS	4983	
<b>SM2.0</b>	PASS	1748	
<b>HDR/SM3.0</b>	PASS	2091	
<b>CPU</b>	PASS	2552	

3DMarkVantage			
3DMark	PASS	P3107	
GPU	PASS	2609	
CPU	PASS	7286	

## 5.2 PCMark

### Windows 7 SP1 32-bit

Test Environment			
CPU	Intel(R) Core(TM) i7-5650U 2.20GHz		
Memory	ACPI DDR3L 1600 8GB (SK H5TC4GB3AFB)		
HDD	Western Digital WD2500BPVT-22JJ5T0 250GB		
Weighted Suite	Result	Score	Remark
PCMark2005			
PCMark Score	PASS	N/A	
CPU Score	PASS	8897	
Memory Score	PASS	10339	
Graphics Score	PASS	N/A	
HDD Score	PASS	N/A	
Test Environment			
CPU	Intel(R) Core(TM) i7-5650U 2.20GHz		
Memory	CERVOZ DDR3L 1066 4GB (ISSI IS43TR8256OBL)		
HDD	Western Digital WD2500BPVT-22JJ5T0 250GB		
Weighted Suite	Result	Score	Remark
PCMark2005			
PCMark Score	PASS	N/A	
CPU Score	PASS	8806	
Memory Score	PASS	8721	
Graphics Score	PASS	N/A	
HDD Score	PASS	N/A	
Test Environment			
CPU	Intel(R) Core(TM) i5-5350U 1.80GHz		
Memory	ACPI DDR3L 1600 8GB (SK H5TC4GB3AFB)		
HDD	Western Digital WD2500BPVT-22JJ5T0 250GB		
Weighted Suite	Result	Score	Remark
PCMark2005			
PCMark Score	PASS	N/A	
CPU Score	PASS	8321	
Memory Score	PASS	9516	
Graphics Score	PASS	N/A	
HDD Score	PASS	N/A	



Test Environment				
CPU	Intel(R) Core(TM) i3-5010U 2.10GHz			
Memory	ACPI DDR3L 1600 8GB (SK H5TC4GB3AFB)			
HDD	Western Digital WD2500BPVT-22JJ5T0 250GB			
Weighted Suite	Result	Score	Remark	
PCMark2005				
PCMark Score	PASS	N/A		
CPU Score	PASS	7333		
Memory Score	PASS	7854		
Graphics Score	PASS	N/A		
HDD Score	PASS	N/A		
Test Environment				
CPU	Intel(R) Core(TM) i3-5010U 2.10GHz			
Memory	Kingston DDR3L 1600 8GB (SK hynix H5TC4GB3AFB)			
HDD	Western Digital WD2500BPVT-22JJ5T0 250GB			
Weighted Suite	Result	Score	Remark	
PCMark2005				
PCMark Score	PASS	N/A		
CPU Score	PASS	7318		
Memory Score	PASS	7907		
Graphics Score	PASS	N/A		
HDD Score	PASS	N/A		

## 5.3 Storage Performance

### 5.3.1 HDD

Test environment:

OS Windows 7 32-bit

Program (HD Tune)

HDD Model	Interface	Capacity	Average (MB/s)	Burst Rate(MB/s)	Access time (ms)
InnoDisk 32GD6SC2QC	mSATA3	32 GB	263.7	273.1	0.1
Crucial CT120M500SSD3	mSATA3	120 GB	338.3	60.3	0.1
Seagate ST3160815AS	SATA2	160 GB	58.4	59.1	16.3
Western Digital WD2500BPVT-22JJ5T0	SATA2	250 GB	38.8	69.2	20.4

Western Digital WD2500AAKS-00VYA0	SATA2	250 GB	63.5	79.6	12.7
Western Digital WD3200BEKT-00F3T0	SATA2	320 GB	61.9	79.2	15.4
Western Digital WD10EZEX-00RKA0	SATA3	1 TB	125.8	231.2	15.5
Western Digital WD10ELAX-089BA0	SATA3	1 TB	40.4	187.1	40.4
SP Silion-Power	USB 2.0	4 GB	14.1	12.8	0.7
KingstonDT HyperX 3.0	USB 3.0	64 GB	30.9	20.8	0.8
BUFFALO BUF-HD-HXU3(B)	USB 3.0	1 TB	30.7	24.9	14.4

### 5.3.2 DVD-ROM

Test environment:

OS Windows 7 32-bit

Program : NERO

CD-ROM Model	Interface	Average Speed	Access times (Full Read, ms)	Burst Rate (MB/s)	DVD
LITE-ON ETAU108	USB	5.53 X	209	19	16 x
ASUS DRW-24DT1ST	SATA	10.9 X	172	34	16 x
PIONEER DVR-219L	SATA	11.02 X	189	39	16 x
LITE-ON iHES312	SATA	10.82 X	160	39	16 x