

# Product Test Report



<b>Product Name</b>	<b>LS-576</b>
<b>Product Version</b>	<b>A</b>
<b>Issued Date</b>	<b>2013.9.4</b>
<b>Report Edition</b>	<b>1.1</b>
<b>BIOS Version</b>	<b>1.1</b>
<b>Testing Engineer</b>	<b>RICK</b>
<b>Check Engineer</b>	<b>GARY</b>

**REVISION HISTORY**

<b>DATE</b>	<b>REVISION NO.</b>	<b>PAGE</b>	<b>DESCRIPTONS</b>
<b>2013.5.23</b>	<b>Ver. 1.0</b>	<b>77</b>	<b>Initial Release</b>
<b>2013.9.4</b>	<b>Ver. 1.1</b>	<b>77</b>	<b>Change mini cards' data</b>

# Index

<b>1. Function test.....</b>	<b>5</b>
1.1 Hardware function.....	5
1.2 BIOS function .....	7
1.3 Driver .....	9
<b>2. Compatibility test .....</b>	<b>13</b>
2.1 CPU Test.....	13
2.2 Operation System Test .....	14
2.3 Memory Test .....	15
2.4 VGA Graphic Quality Test.....	16
2.5 Audio .....	17
2.6 HDD Test .....	20
2.7 DVD-ROM Test .....	21
2.8 USB device Test .....	22
2.9 Serial Port Test .....	25
2.10 PS2 Keyboard 、 Mouse Test.....	28
2.11 Print Port Test .....	30
2.12 LAN Test.....	31
2.13 Power Supply Test .....	33
2.14 PCI Express mini card .....	34
<b>3. Environmental test .....</b>	<b>36</b>
3.1 Temperature Test.....	36
3.2 Thermal measurements at various points on the board .....	40
<b>4. Reliability Test .....</b>	<b>43</b>
4.1 Power Consumption Test .....	43
<b>5. Performance Test .....</b>	<b>55</b>
5.1 Business Win Stone 2002.....	55

<b>5.2 Business Win Stone 2004.....</b>	<b>56</b>
<b>5.3 Content Creation Winstone 2004.....</b>	<b>57</b>
<b>5.4 3D MARK(2001 、 2003 、 2005) .....</b>	<b>58</b>
<b>5.5 3D MARK2006 .....</b>	<b>61</b>
<b>5.6 PC MARK2002.....</b>	<b>64</b>
<b>5.7 PC MARK2004.....</b>	<b>67</b>
<b>5.8 PC MARK2005.....</b>	<b>70</b>
<b>5.9 Storage Performance .....</b>	<b>75</b>
<b>5.10 Vibration Test.....</b>	<b>77</b>

# 1. Function test

## 1.1 Hardware function

### Base Function Test

Item	Description	Result
1	Power Button	PASS
2	Reset	PASS
3	Power LED	PASS
4	HDD LED	PASS
5	SATA 1/2/3/4	PASS
6	USB3.0 1/2/3/4	PASS
7	USB2.0 1/2/3/4	PASS
8	DDRIII 1/2	PASS
9	COM 1/2/3/4/5/6	PASS
10	VGA Port	PASS
11	PS2	PASS
12	CN_AUDIO	PASS
13	CD_IN	PASS
14	CN_DIO	PASS
15	CPUFAN	PASS
16	SYSFAN	PASS
17	Mini Card 1/2	PASS
18	CN_DVI	PASS
19	CN_LVDS	PASS
20	CN_INV	PASS
21	LAN 1/2/3/4/5/6	PASS
22	DC_2P	PASS

<b>23</b>	<b>ATX</b>	<b>PASS</b>
<b>24</b>	<b>DC_IN</b>	<b>PASS</b>
<b>25</b>	<b>CN_IR</b>	<b>PASS</b>
<b>26</b>	<b>Printer</b>	<b>PASS</b>

## **Jumper**

<b>Item</b>	<b>Description</b>	<b>Result</b>
<b>1</b>	<b>JRTC</b>	<b>PASS</b>
<b>2</b>	<b>JCSEL1</b>	<b>PASS</b>
<b>3</b>	<b>JCSEL2</b>	<b>PASS</b>
<b>4</b>	<b>JVLCD</b>	<b>PASS</b>
<b>5</b>	<b>JAT</b>	<b>PASS</b>

## 1.2 BIOS function

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

<b>25</b>	<b>Wake on PCH LAN</b>	<b>PASS</b>	<b>Only 82579LM</b>
<b>26</b>	<b>Intel(R) AMT</b>	<b>PASS</b>	
<b>27</b>	<b>Serial Port</b>	<b>PASS</b>	
<b>28</b>	<b>Parallel Port</b>	<b>PASS</b>	
<b>29</b>	<b>IR Func.</b>	<b>PASS</b>	
<b>30</b>	<b>Watch Dog Timer</b>	<b>PASS</b>	
<b>31</b>	<b>Power Control</b>	<b>PASS</b>	
<b>32</b>	<b>CPU Warning Temp</b>	<b>PASS</b>	
<b>33</b>	<b>CPU Fan Control</b>	<b>PASS</b>	
<b>34</b>	<b>Power On By RTC Alarm</b>	<b>PASS</b>	
<b>35</b>	<b>Set Supervisor Password</b>	<b>PASS</b>	
<b>36</b>	<b>Set User password</b>	<b>PASS</b>	



## 1.3 Driver

### CD Edition : IPCi5-1.0

Notice: Intel does not release VGA driver for Windows server 2000/2003/2008

#### 1. Windows XP SP2 32-bit driver test

Item	Description	Result	Version
1	Chipset Driver	PASS	9.3.0.1019
2	VGA Driver	PASS	6.14.10.5407
3	Audio Driver	PASS	5.10.0.6194
4	LAN Driver (82574L)	PASS	11.14.48.0
5	LAN Driver (82579LM)	PASS	11.15.12.0

#### 2. Windows XP SP2 64-bit driver test

Item	Description	Result	Version
1	Chipset Driver	PASS	9.3.0.1019
2	VGA Driver	PASS	6.14.10.5407
3	Audio Driver (Need UAA bus driver)	PASS	5.10.0.6194
4	LAN Driver (82574L)	PASS	11.14.48.0
5	LAN Driver (82579LM)	PASS	11.15.12.0

#### 3. Windows Server 2003 32-bit Driver Test

Item	Description	Result	Version
1	Chipset Driver	PASS	9.3.0.1019
2	Audio Driver	PASS	5.10.0.6194
3	LAN Driver (82574L)	PASS	11.14.48.0
4	LAN Driver (82579LM)	PASS	11.15.12.0

#### 4. Windows Server 2003 64-bit driver test

Item	Description	Result	Version
1	Chipset Driver	PASS	9.3.0.1019
2	Audio Driver	PASS	5.10.0.6194
3	LAN Driver (82574L)	PASS	11.14.48.0
4	LAN Driver (82579LM)	PASS	11.15.12.0

#### 5. Windows Vista 32-bit driver test

Item	Description	Result	Version
1	Chipset Driver	PASS	9.3.0.1019
2	VGA Driver	PASS	8.15.10.2696
3	Audio Driver	PASS	6.0.1.6662
4	LAN Driver (82574L)	PASS	11.14.48.0
5	LAN Driver (82579LM)	PASS	11.15.12.0

#### 6. Windows Vista 64-bit driver test

Item	Description	Result	Version
1	Chipset Driver	PASS	9.3.0.1019
2	VGA Driver	PASS	8.15.10.2761
3	Audio Driver	PASS	6.0.1.6662
4	LAN Driver (82574L)	PASS	11.14.48.0
5	LAN Driver (82579LM)	PASS	11.15.12.0

### 7. Windows Server 2008 32-bit driver test

Item	Description	Result	Version
1	Chipset Driver	PASS	9.3.0.1019
2	Audio Driver	PASS	6.0.1.6662
3	LAN Driver (82574L)	PASS	11.14.48.0
4	LAN Driver (82579LM)	PASS	11.15.12.0

### 8. Windows Server 2008 64-bit driver test

Item	Description	Result	Version
1	Chipset Driver	PASS	9.3.0.1019
2	Audio Driver	PASS	6.0.1.6662
3	LAN Driver (82574L)	PASS	11.14.48.0
4	LAN Driver (82579LM)	PASS	11.15.12.0

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

Item	Description	Result	Version
1	Chipset Driver	PASS	9.3.0.1019
2	VGA Driver	PASS	9.17.10.2875
3	Audio Driver	PASS	6.0.1.6662
4	LAN Driver (82574L)	PASS	11.14.48.0
5	LAN Driver (82579LM)	PASS	11.15.12.0

## 10. Windows 7 64-bit Driver Test

Item	Description	Result	Version
1	Chipset Driver	PASS	9.3.0.1019
2	VGA Driver	PASS	9.17.10.2875
3	Audio Driver	PASS	6.0.1.6662
4	LAN Driver (82574L)	PASS	11.14.48.0
5	LAN Driver (82579LM)	PASS	11.15.12.0

## 2. Compatibility test

### 2.1 CPU Test

Test environment:

OS Windows XP professional SP2

Test program : PC MARK 2005

Spec Code	Clock Speed	Family	Processor	DMI	Smart Cache	Result
<a href="#">SR02V</a>	2.20 GHz	Core	i3-2330E	5 GT/s	3 MB	PASS
<a href="#">SR02U</a>	2.50 GHz	Core	i5-2510E	5 GT/s	3 MB	PASS
<a href="#">SR02T</a>	2.10 GHz	Core	i7-2710QE	5 GT/s	6 MB	PASS
<a href="#">SHOWM</a>	2.40 GHz	Core	i3-3120ME	5 GT/s	3 MB	PASS
<a href="#">SR0MZ</a>	2.50 GHz	Core	i5-3210M	5 GT/s	3 MB	PASS
<a href="#">SR0NP</a>	2.30 GHz	Core	i7-3610QE	5 GT/s	6 MB	PASS

## 2.2 Operation System Test

Item	Description	Result	Remark
1	Windows 7 64-bit	PASS	
2	Windows 7 32-bit	PASS	
3	Windows Server 2008 64-bit	PASS	
4	Windows Server 2008 32-bit	PASS	
5	Windows Vista 64-bit	PASS	
6	Windows Vista 32-bit	PASS	
7	Windows XP SP2 64-bit	PASS	
8	Windows XP SP2 32-bit	PASS	
9	Windows Server 2003 64-bit	PASS	
10	Windows Server 2003 32-bit	PASS	
11	Cent OS 6.4 (2.6.32-358.el6.i686)	PASS	

## 2.3 Memory Test

Test environment:

OS Windows XP professional SP2

Test program : PC MARK 2005

Manufacturer	Chip	Frequency	Capacity Mbytes	Result
ADATA	SEC K4B1G0846D	DDR3 1066	1 GB	PASS
ADATA	Hynix H57Q1G83AFP	DDR3 1066	2 GB	PASS
Transcend	SEC K4B1G0846D	DDR3 1066	1 GB	PASS
Transcend	SEC K4B1G0846D	DDR3 1066	2 GB	PASS
INNODISK	Hynix H5TQ2G83CFR	DDR3 1333	4 GB	PASS
Kingston	Kingston D2568JPTCPGD9U	DDR3 1333	4 GB	PASS
Kingston	ELPIDA J420BBBG-GN-F	DDR3 1600	8 GB	PASS
Acpi	hinix H5TQ2GB3EFR	DDR3 1600	2 GB	PASS
Acpi	hinix H5TQ2GB3EFR	DDR3 1600	4 GB	PASS
Acpi	hinix H5TQ2GB3EFR	DDR3 1600	8 GB	PASS

## 2.4 VGA Graphic Quality Test

Test environment:

OS Windows XP professional SP2 32/64-bit

Driver version : 6.14.10.5407

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



## 2.5 Audio

Test environment:

OS Windows XP professional SP2 32-bit

Driver version : 5.10.0.6194

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

OS Windows XP professional SP2 64-bit

Driver version : 5.10.0.6194

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

OS Windows Server 2003 32-bit

Driver version : 5.10.0.6194

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

OS Windows Server 2003 64-bit

Driver version : 5.10.0.6194

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

## OS Windows Vista 32 bit

Driver version : 6.0.1.6662

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

## OS Windows Vista 64 bit

Driver version : 6.0.1.6662

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

## OS Windows Server 2008 32-bit

Driver version : 6.0.1.6662

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

## OS Windows Server 2008 64-bit

Driver version : 6.0.1.6662

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

## OS Windows 7 32-bit

Driver version : 6.0.1.6662

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

## OS Windows 7 64-bit

Driver version : 6.0.1.6662

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

## OS Cent OS 6.4

Item	Description	Result	Remark
1	2 CH	PASS	
2	Microphone	PASS	

## 2.6 HDD Test

Test environment:

OS Windows XP professional SP2

Model	Interface	Capacity	Size Detect	Data Transfer
HITACHI HTS543216L9A300	SATA	160 GB	PASS	PASS
Western Digital WD2500BPVT-22JJ5T0	SATA	250 GB	PASS	PASS
Western Digital WD3200BPVT-00JJ5T0	SATA	320 GB	PASS	PASS
Western Digital WD3200AAKS-00B3A0	SATA	320 GB	PASS	PASS
Western Digital WD10EARS-00Y5B1	SATA	1 TB	PASS	PASS
Western Digital WD10EALX-009BA0	SATA	1 TB	PASS	PASS
Intel SSDSC2CT060A3	SSD	60 GB	PASS	PASS
Acpi MSS43-M	mSATA	32 GB	PASS	PASS

Notice: mSATA only support to LS-576TXDS' MINI CARD 1.

## 2.7 DVD-ROM Test

Test environment:

OS Windows XP professional SP2

Model	Interface	Detect	Data Transfer	Play DVD
ASUS DRW-24D1ST	SATA	PASS	PASS	PASS
PIONEER DVR-219L	SATA	PASS	PASS	PASS
LITE-ON eTAU108	USB	PASS	PASS	PASS
BUFFALO DVSM-PC58U2V	USB	PASS	PASS	PASS

## 2.8 USB device Test

### 1. MS-DOS

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 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	

#### 4. 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	

#### 5. Windows Server 2008 32/64-bit

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

#### 6. 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	

## 7. Cent OS 6.4

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



## 2.9 Serial Port Test

### 1. MS-DOS

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

### 2. Windows XP SP2 32-bit

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

### 3. Windows XP SP2 64-bit

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

### 4. Windows Server 2003 32-bit

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

### 5. Windows Server 2003 64-bit

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

### 6. Windows Vista 32-bit

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

### 7. Windows Vista 64-bit

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

### 8. Windows Server 2008 32-bit

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

### 9. Windows Server 2008 64-bit

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

### 10. Windows 7 32-bit

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

### 11. Windows 7 64-bit

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

## 2.10 PS2 Keyboard 、 Mouse Test

### 1. MS-DOS

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

### 2. Windows XP SP2 32/64-bit

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

### 3. Windows Server 2003 32/64-bit

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

### 4. Windows Vista 32/64-bit

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

### 5. Windows server 2008 32/64-bit

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

### 6. Windows 7 32/64-bit

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

### 7. Cent OS 6.4

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

## 2.11 Print Port Test

### 1. MS-DOS(CHKIT)

Item	Description	Result	Remark
1	Parallel Port Detect TEST	PASS	
2	ECP/EPP PRINT TEST	PASS	

### 2. Windows Server 2003 32/64-bit

Item	Description	Result	Remark
1	ECP/EPP PRINT TEST	PASS	

### 3. Windows XP SP2 32/64-bit

Item	Description	Result	Remark
1	ECP/EPP PRINT TEST	PASS	

### 4. Windows Vista 32/64-bit

Item	Description	Result	Remark
1	ECP/EPP PRINT TEST	PASS	

### 5. Windows Server 2008 32/64-bit

Item	Description	Result	Remark
1	ECP/EPP PRINT TEST	PASS	

### 6. Windows 7 32/64-bit

Item	Description	Result	Remark
1	ECP/EPP PRINT TEST	PASS	

## 2.12 LAN Test

Data Transfer Test environment:

-CAT 6 UTP 100M

-8 HR. continuous

1. Windows XP SP2 32/64-bit

32/64-bit driver version : 11.15.12.0

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	Data Transfer Test	PASS	32-bit

2. Windows Server 2003 32/64-bit

32/64-bit driver version : 11.15.12.0

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

3. Windows Vista 32/64-bit

32/64-bit driver version : 11.15.12.0

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	Data Transfer Test	PASS	32-bit

4. Windows Server 2008 32/64-bit

32/64-bit driver version : 11.15.12.0

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

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

32/64-bit driver version : 11.15.12.0

Item	Description	Result	Remark
1	Device Manager Check	PASS	

## 6. Cent OS 6.4

Item	Description	Result	Remark
1	Device Manager Check	PASS	



## 2.13 Power Supply Test

Item	TYPE	Description	Result	Remark
1	Adapter	LI SHIN 0219B1280 80W	PASS	
2	Adapter	LI SHIN 0227B19120 120W	PASS	
3	ATX Power	Seasonic SS-330HB 330W	PASS	
4	ATX Power	AcBel ATX-350P-DNSS 350W	PASS	
5.	ATX Power	COOLER MASTER RS-390-PMSR-A3 390W	PASS	

## 2.14 PCI Express mini card

Motherboard	PCI Express mini card	Remark
LS-576TXD	MPX-954	PASS
	MPX-954E	PASS
	MPX-827	PASS
	MPX-574D	PASS
	MPX-574D2	ONLY MINI CARD 2
	MPX-643	PASS
	MPX-750	PASS
	MPX-885	PASS
	MPX-3132	ONLY MINI CARD 1
	MPX-5201	PASS
	MPX-6864	PASS
	MPX-7202	PASS
	MPX-9125	PASS
	MPX-TP4R	PASS
	MPX-SDVOD	ONLY MINI CARD 2

**Attention: MPX-3132 needs to into BIOS setting**

**=> Advanced => South Bridge Configuration**

**=> SB PCI Express Config**

**=> PCI Express Root Port 5**

**=> PCIe Speed [Gen1]**

**Then load driver to usb floppy from**

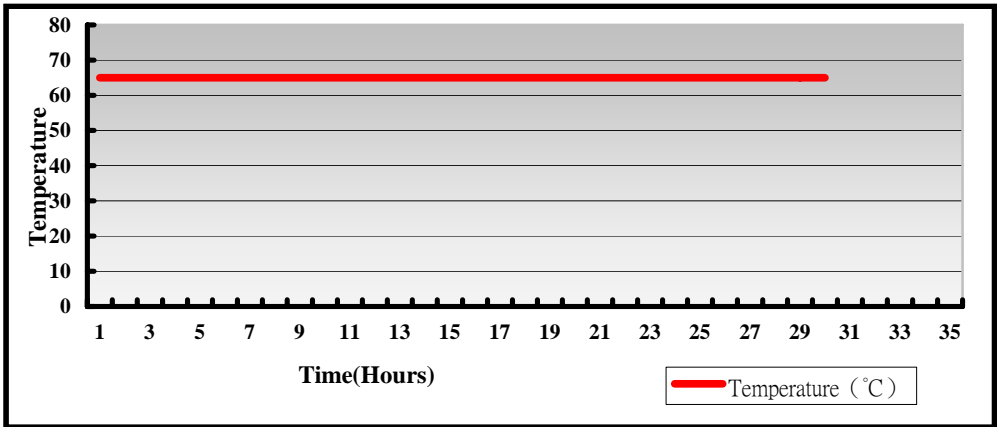
<http://www.siliconimage.com/support/>

Motherboard	PCI Express mini card	Remark
<b>LS-576TXDS</b>	<b>MPX-954</b>	ONLY MINI CARD 2
	<b>MPX-954E</b>	ONLY MINI CARD 2
	<b>MPX-827</b>	PASS
	<b>MPX-574D</b>	ONLY MINI CARD 2
	<b>MPX-574D2</b>	ONLY MINI CARD 2
	<b>MPX-643</b>	NO SUPPLY
	<b>MPX-750</b>	ONLY MINI CARD 2
	<b>MPX-885</b>	NO SUPPLY
	<b>MPX-3132</b>	NO SUPPLY
	<b>MPX-5201</b>	ONLY MINI CARD 2
	<b>MPX-6864</b>	ONLY MINI CARD 2
	<b>MPX-7202</b>	ONLY MINI CARD 2
	<b>MPX-9125</b>	ONLY MINI CARD 2
	<b>MPX-TP4R</b>	PASS
	<b>MPX-SDVOD</b>	ONLY MINI CARD 2
<b>mSATA</b>	ONLY MINI CARD 1	

### 3. Environmental test

#### 3.1 Temperature Test

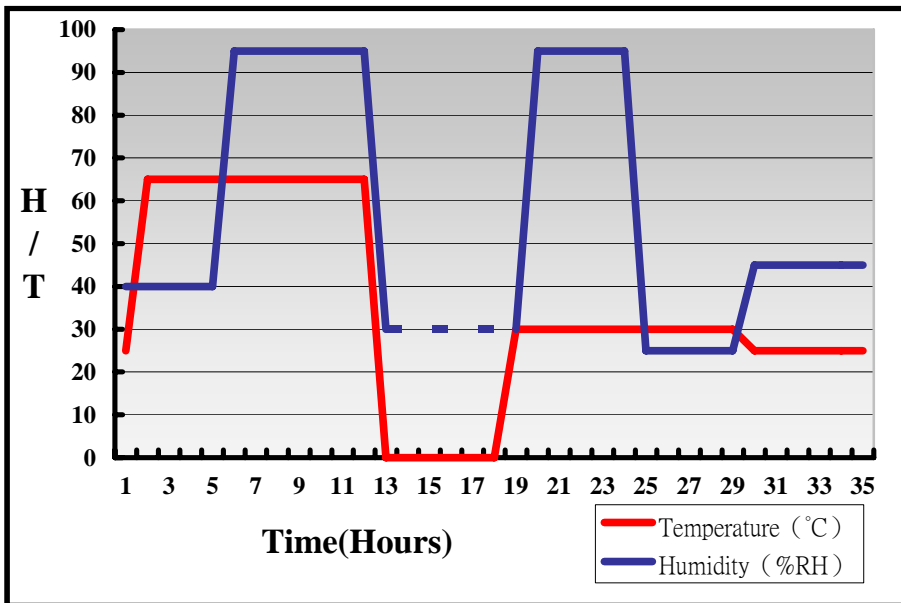
System Board	LS-576TXD_A
CPU	Intel(R) Core(TM) i5-3210ME 2.5GHz
Memory	Kingston DDR3 1333 4GB (D2568JPTCPGD9U)
HDD	Western Digital WD3200AAKS-00B3A0 320GB
Operating OS	Windows XP
Test Equipment	GIANT FORCE (GTH-150-60-CP-AR)
Test Program	3DMark 2003



<b>System Board</b>	<b>LS-576TXD_A</b>
<b>Case</b>	<b>CMB-576</b>
<b>CPU</b>	<b>Intel(R) Core(TM) i7-3610QE 2.3GHz</b>
<b>Memory</b>	<b>Kingston DDR3 1600 8GB (J420BBBG-GN-F)*2</b>
<b>HDD</b>	<b>HITACHI HTS543216L9A300 160GB</b>
<b>Operating OS</b>	<b>Windows XP 64-bit</b>
<b>Test Equipment</b>	<b>GIANT FORCE (GTH-150-60-CP-AR)</b>
<b>Test Program 1</b>	<b>3DMark 2003</b>
<b>Temperature / Time</b>	<b>40°C / 48Hours (2 Days)</b>
<b>Test Program 2</b>	<b>BurnIn 6.0 + Prime95</b>
<b>Temperature / Time</b>	<b>50°C / 24Hours (1 Day)</b>

## Hardware Device list:

System Board	LS-576TXD_A
CPU	Intel(R) Core(TM) i3-2330E 2.20GHz
Memory	Acpi DDR3 1600 8GB (hunix H5TCAG83EFR)
HDD	Western Digital WD10EALX-009BA0 1TB
Operating OS	Windows XP
Test Equipment	GIANT FORCE (GTH-150-60-CP-AR)
Test Program	3DMark 2003



**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:

<b>System Board</b>	<b>LS-576TXD_A</b>
<b>CPU</b>	<b>Intel(R) Core(TM) i3-2330E 2.20GHz</b>
<b>Memory</b>	<b>Acpi DDR3 1600 8GB (hunix H5TCAG83EFR)</b>
<b>HDD</b>	<b>Western Digital WD10EALX-009BA0 1TB</b>

<b>Temperature</b>	<b>Result</b>	<b>Remark</b>
<b>85°C</b>	<b>PASS</b>	<b>50 Times</b>
<b>-40°C</b>	<b>PASS</b>	<b>50 Times</b>

## 3.2 Thermal measurements at various points on the board

### Test Environment :

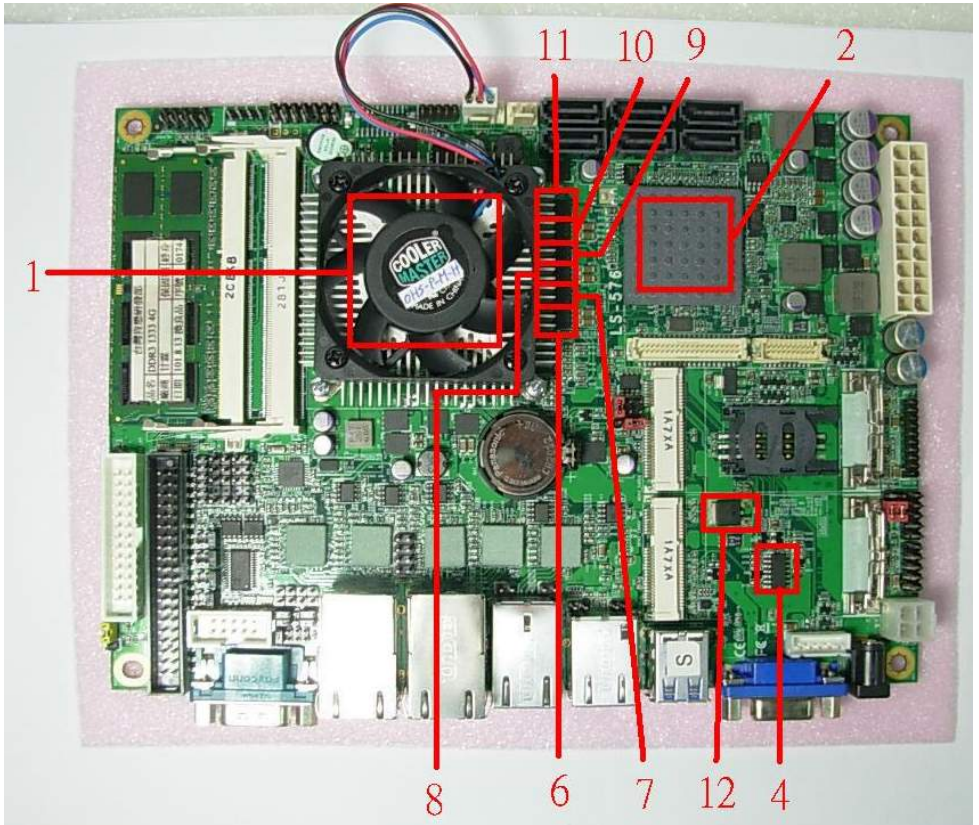
<b>CPU</b>	Intel(R) Core(TM) i7-3610QE 2.30GHz
<b>Memory</b>	Kingston DDR3 1333 4GB (D2568JPTCPGD9U)
<b>HDD</b>	Western Digital WD10EARS-00Y5B1 1TB
<b>Adapter</b>	LI SHIN 0219B1280
<b>Operating System</b>	Windows XP
<b>Test Program</b>	BurnIn 6.0

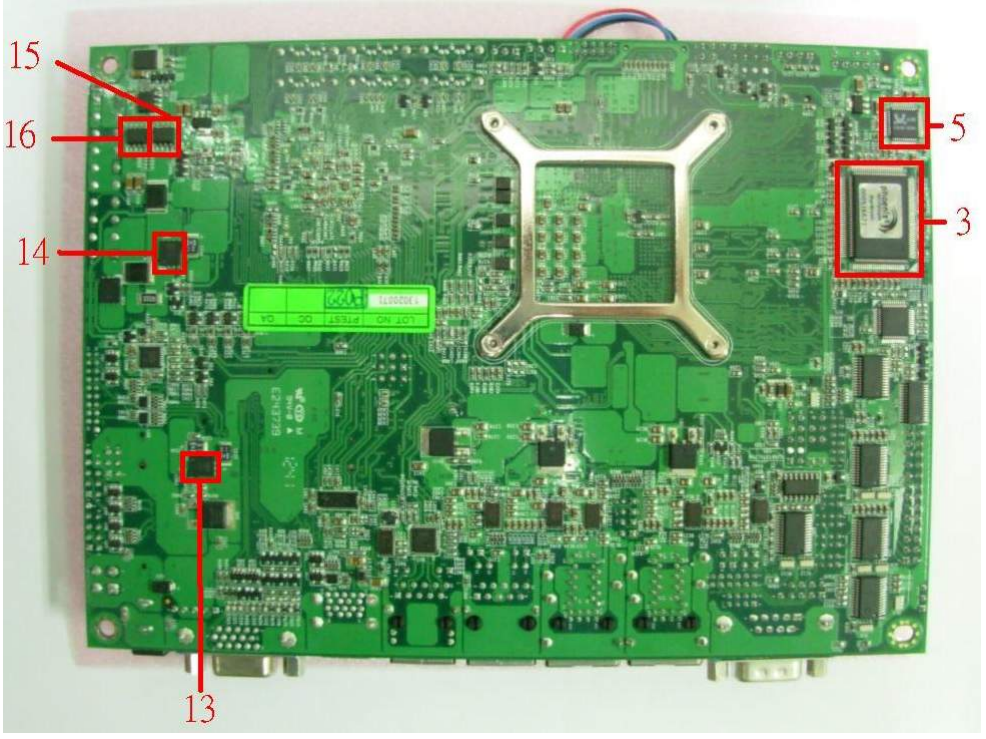
### Test Result:

<b>Item</b>	<b>Environmental temperature</b>	<b>25.2°C</b>
<b>1</b>	<b>CPU</b>	<b>48°C</b>
<b>2</b>	<b>PCH (QM77)</b>	<b>49.4°C</b>
<b>3</b>	<b>LPCIO (ICH83627DHG-P+OBLPMB-1)</b>	<b>35.3°C</b>
<b>4</b>	<b>U21 (ITS74HC14)</b>	<b>40.4°C</b>
<b>5</b>	<b>U24 (ICHALC888)</b>	<b>47.2°C</b>
<b>6</b>	<b>Q10 (TMSIRFH7914PBF)</b>	<b>48.3°C</b>
<b>7</b>	<b>Q11 (TMSIRFH7914PBF)</b>	<b>53.8°C</b>
<b>8</b>	<b>Q12 (TMSIRFH7914PBF)</b>	<b>52.9°C</b>
<b>9</b>	<b>Q13 (TMSIRFH7914PBF)</b>	<b>53.6°C</b>
<b>10</b>	<b>Q14 (TMSIRFH7914PBF)</b>	<b>50.7°C</b>
<b>11</b>	<b>Q15 (TMSIRFH7914PBF)</b>	<b>54°C</b>
<b>12</b>	<b>Q23 (TRE1085)</b>	<b>47.8°C</b>



13	Q62 (TMSIRFH7914PBF)	57.5°C
14	Q68 (TMSIRFH7914PBF)	40.6°C
15	Q69 (ICSI4435_NL)	41.4°C
16	Q72 (ICSI4435_NL)	41.4°C





## 4. Reliability Test

### 4.1 Power Consumption Test

#### 1. Test Environment:

Motherboard	LS-576TXD_A
CPU	Intel(R) Core(TM) i5-3210ME 2.50GHz
Memory	Kingston DDR3 1600 8GB (J420BBBG-GN-F)*2
HDD	Western Digital WD10EALX-009BA0 1TB

#### Power Supply : Seasonic SS-330HB

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003 +PRIME95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
<b>12V</b>	2.82	33.84	3.33	39.96
<b>5V</b>	1.18	5.9	2.64	13.2
<b>3.3V</b>	3.54	11.682	3.21	10.593
<b>5VSB</b>	1.387	6.935	0.012	0.06

### 1.a.Test Environment:

The same as above but with LCD panel

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

Power Supply : Seasonic SS-330HB

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003 +PRIME95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
<b>12V</b>	4.19	50.28	5.09	61.08
<b>5V</b>	1.78	8.9	3.23	16.15
<b>3.3V</b>	3.58	11.814	3.38	11.154
<b>5VSB</b>	1.117	5.585	0.016	0.08

## 2. Test Environment:

<b>Motherboard</b>	LS-576TXD_A
<b>CPU</b>	Intel(R) Core(TM) i5-3210ME 2.50GHz
<b>Memory</b>	Kingston DDR3 1600 8GB (J420BBBG-GN-F)*2

### (A) Power Supply : Seasonic SS-330HB

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003 +PRIME95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
<b>12V</b>	0.9	10.8	3.03	36.36
<b>5V</b>	0.63	3.15	2.11	10.55
<b>3.3V</b>	3.33	10.989	3.14	10.362
<b>5VSB</b>	1.387	6.935	0.012	0.06

### (B) Adapter : 12V => LI SHIN 0219B1280

19V => LI SHIN 0227B19120

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003 +PRIME95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
<b>12V</b>	4.26	51.12	5.45	65.4
<b>19V</b>	2.73	51.87	3.44	65.36

## 2.a.Test Environment:

The same as above but with LCD panel

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

### (A)Power Supply : Seasonic SS-330HB

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003 +PRIME95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
12V	2.45	29.4	4.64	55.68
5V	1.33	6.65	2.77	13.85
3.3V	3.32	10.956	3.35	11.055
5VSB	1.117	5.585	0.016	0.08

### (B)Adapter : 12V => LI SHIN 0219B1280

19V => LI SHIN 0227B19120

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003 +PRIME95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
12V	6.47	77.64	N/A	N/A
19V	3.85	73.15	4.67	88.73

N/A: Current is too high (over 7.45) to measure.

### 3.Test Environment:

<b>Motherboard</b>	LS-576TXD_A
<b>CPU</b>	Intel(R) Core(TM) i3-2330E 2.20GHz
<b>Memory</b>	Kingston DDR3 1600 8GB (J420BBBBG-GN-F)*2
<b>HDD</b>	Western Digital WD10EALX-009BA0 1TB

#### Power Supply : Seasonic SS-330HB

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003 +PRIME95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
<b>12V</b>	3.18	38.16	3.73	44.76
<b>5V</b>	1.11	5.55	2.33	11.65
<b>3.3V</b>	3.77	12.441	3.57	11.781
<b>5VSB</b>	1.535	7.675	0.015	0.075

### 3.a.Test Environment:

The same as above but with LCD panel

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

Power Supply : Seasonic SS-330HB

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003 +PRIME95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
12V	5.44	65.28	5.93	71.16
5V	1.77	8.85	2.83	14.15
3.3V	3.71	12.243	3.55	11.715
5VSB	1.49	7.45	0.022	0.11



#### 4. Test Environment:

<b>Motherboard</b>	LS-576TXD_A
<b>CPU</b>	Intel(R) Core(TM) i3-2330E 2.20GHz
<b>Memory</b>	Kingston DDR3 1600 8GB (J420BBBG-GN-F)*2

#### (A) Power Supply : Seasonic SS-330HB

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003 +PRIME95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
<b>12V</b>	1.5	13.5	3.54	42.48
<b>5V</b>	0.76	3.8	1.85	9.25
<b>3.3V</b>	3.76	12.408	3.54	11.682
<b>5VSB</b>	1.535	7.675	0.015	0.075

#### (B) Adapter : 12V => LI SHIN 0219B1280

19V => LI SHIN 0227B19120

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003 +PRIME95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
<b>12V</b>	4.83	57.96	5.92	71.04
<b>19V</b>	3.13	59.47	3.9	74.1

#### 4.a.Test Environment:

The same as above but with LCD panel

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

#### (A)Power Supply : Seasonic SS-330HB

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003 +PRIME95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
12V	3.12	37.44	5.14	61.68
5V	1.29	6.45	2.32	11.6
3.3V	3.66	12.078	3.47	11.451
5VSB	1.49	7.45	0.022	0.11

#### (B)Adapter : 12V => LI SHIN 0219B1280

19V => LI SHIN 0227B19120

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003 +PRIME95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
12V	6.91	82.92	N/A	N/A
19V	4.21	79.99	5.16	98.04

N/A: Current is too high (over 6.8) to measure.

## 5.Test Environment:

<b>Motherboard</b>	LS-576TXDS_A
<b>CPU</b>	Intel(R) Core(TM) i7-3610QE 2.30GHz
<b>Memory</b>	Kingston DDR3 1600 8GB (J420BBBBG-GN-F)*2
<b>HDD</b>	Western Digital WD10EARS-00Y5B1 1TB

### Power Supply : Seasonic SS-330HB

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003 +PRIME95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
<b>12V</b>	2.17	26.04	6.07	72.84
<b>5V</b>	1.07	5.35	2.5	12.5
<b>3.3V</b>	3.18	10.494	3.29	10.857
<b>5VSB</b>	1.16	5.8	0.021	0.105

### 5.a.Test Environment:

The same as above but with LCD panel

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

Power Supply : Seasonic SS-330HB

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003 +PRIME95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
<b>12V</b>	3.34	40.08	7.55	90.6
<b>5V</b>	1.77	8.85	3.19	15.95
<b>3.3V</b>	3.44	11.352	3.31	10.923
<b>5VSB</b>	1.221	6.105	0.017	0.085

## 6. Test Environment:

Motherboard	LS-576TXDS_A
CPU	Intel(R) Core(TM) i7-3610QE 2.30GHz
Memory	Kingston DDR3 1600 8GB (J420BBBG-GN-F)*2

### (A) Power Supply : Seasonic SS-330HB

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003 +PRIME95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
12V	1.94	23.28	5.77	69.24
5V	0.68	3.4	2.12	10.6
3.3V	3.15	10.395	3.27	10.791
5VSB	1.16	5.8	0.021	0.105

### (B) Adapter : 12V => LI SHIN 0219B1280

19V => FSP120-AAA

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003 +PRIME95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
12V	2.85	34.2	N/A	N/A
19V	2.19	41.61	4.93	93.67

N/A: Current is too high (over 7.6) to measure.

### 6.a.Test Environment:

The same as above but with LCD panel

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

### (A)Power Supply : Seasonic SS-330HB

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003 +PRIME95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
12V	2.6	31.2	7.44	89.28
5V	1.28	6.4	2.77	13.85
3.3V	3.23	10.659	3.27	10.791
5VSB	1.221	6.105	0.017	0.085

### (B)Adapter : 12V => LI SHIN 0219B1280

19V => FSP120-AAA

Voltage	MS-DOS Boot up		Windows XP SP2 64-bit 3DMARK 2003 +PRIME95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
12V	4.71	56.52	N/A	N/A
19V	3.35	63.65	6.21	117.99

N/A: Current is too high (over 7.8) to measure.

## 5. Performance Test

### 5.1 Business Win Stone 2002

Windows XP SP2

WEIGHTED SUITE	Test Environment	Result	Remark
<b>Business Win stone 2002</b>	<b>Intel(R) Core(TM) i5-3210M 2.50GHz ADATA 1066 2GB (H5TQ1G83AFR) Western Digital WD10EARS-00Y5B1 1TB</b>	PASS	42.8 43 42.5 42.7
<b>Business Win stone 2002</b>	<b>Intel(R) Core(TM) i7-3610QE 2.30GHz Acpi DDR3 1600 4GB (H5TQ2GB3EFR) Western Digital WD10EARS-00Y5B1 1TB</b>	PASS	42.6 41.8 42 42.5

## 5.2 Business Win Stone 2004

### Windows XP SP2

Weighted Suite	Test Environment	Result	Remark
<b>Business Win stone 2004</b>	<b>Intel(R) Core(TM) i5-3210M 2.50GHz ADATA 1066 2GB (H5TQ1G83AFR) Western Digital WD10EARS-00Y5B1 1TB</b>	PASS	28.2 29.1 28.3 31.5
<b>Business Win stone 2004</b>	<b>Intel(R) Core(TM) i7-3610QE 2.30GHz Acpi DDR3 1600 4GB (H5TQ2GB3EFR) Western Digital WD10EARS-00Y5B1 1TB</b>	PASS	28.4 28.4 27.9 28.6



## 5.3 Content Creation Winstone 2004

Windows XP SP2

Weighted Suite	Test Environment	Result	Remark
<b>Content Creation Winstone 2004</b>	<b>Intel(R) Core(TM) i5-3210M 2.50GHz ADATA 1066 2GB (H5TQ1G83AFR) Western Digital WD10EARS-00Y5B1 1TB</b>	<b>PASS</b>	<b>58.5 58.5 58.2 58.1</b>
<b>Content Creation Winstone 2004</b>	<b>Intel(R) Core(TM) i7-3610QE 2.30GHz Acpi DDR3 1600 4GB (H5TQ2GB3EFR) Western Digital WD10EARS-00Y5B1 1TB</b>	<b>PASS</b>	<b>54.3 53.4 53.8 53.9</b>

## 5.4 3D MARK(2001、2003、2005)

### Windows XP SP2 64-bit

Weighted Suite	Test Environment	Result	Remark
3DMARK2001 Score	Intel(R) Core(TM) i5-3210ME 2.50GHz Kingston DDR3 1600 8GB (J420BBBBG-GN-F)*2 Western Digital WD10EALX-009BA0 1TB	PASS	19617
3DMARK2003 Score		PASS	1527
3DMARK2005 Score		PASS	523

### Windows XP SP2 32-bit

Weighted Suite	Test Environment	Result	Remark
3DMARK2001 Score	Intel(R) Core(TM) i3-2330E 2.20GHz A-DATA DDR3 1066 1GB (K4B1G0846D) Western Digital WD10EALX-009BA0 1TB	PASS	10633
3DMARK2003 Score		PASS	4525
3DMARK2005 Score		PASS	4247

**Windows XP SP2 32-bit**

<b>Weighted Suite</b>	<b>Test Environment</b>	<b>Result</b>	<b>Remark</b>
<b>3DMARK2001 Score</b>	<b>Intel(R) Core(TM) i3-2330E 2.20GHz A-DATA DDR3 1066 2GB (H57Q1G83AFP) Western Digital WD10EALX-009BA0 1TB</b>	PASS	10812
<b>3DMARK2003 Score</b>		PASS	4564
<b>3DMARK2005 Score</b>		PASS	4348

**Windows XP SP2 64-bit**

<b>Weighted Suite</b>	<b>Test Environment</b>	<b>Result</b>	<b>Remark</b>
<b>3DMARK2001 Score</b>	<b>Intel(R) Core(TM) i5-3210ME 2.50GHz Kingston DDR3 1333 4GB (D2568JPTCPGD9U) Transcend DDR3 1066 1GB (K4B1G0846D) Western Digital WD3200AAKS-00B3A0 320GB</b>	PASS	12188
<b>3DMARK2003 Score</b>		PASS	8262
<b>3DMARK2005 Score</b>		PASS	4472

**Windows XP SP2 32-bit**

<b>Weighted Suite</b>	<b>Test Environment</b>	<b>Result</b>	<b>Remark</b>
<b>3DMARK2001 Score</b>	<b>Intel(R) Core(TM) i7-3610QE 2.30GHz</b>	PASS	14021
<b>3DMARK2003 Score</b>	<b>Transcend DDR3 1066 2GB (K4B1G0846D)</b>	PASS	7746
<b>3DMARK2005 Score</b>	<b>Western Digital WD10EARS-00Y5B1 1TB</b>	PASS	5031

## 5.5 3D MARK2006

### Windows XP SP2 64-bit

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK Score	Intel(R) Core(TM) i5-3210ME 2.50GHz Kingston DDR3 1600 8GB (J420BBBG-GN-F)*2 Western Digital WD10EALX-009BA0 1TB	PASS	5199
2	SM2.0 Score		PASS	1632
3	HDR/SM3.0 Score		PASS	2274
4	CPU Score		PASS	3294

### Windows XP SP2 32-bit

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK Score	Intel(R) Core(TM) i3-2330E 2.20GHz A-DATA DDR3 1066 1GB (K4B1G0846D) Western Digital WD10EALX-009BA0 1TB	PASS	2119
2	SM2.0 Score		PASS	668
3	HDR/SM3.0 Score		PASS	846
4	CPU Score		PASS	2632

**Windows XP SP2 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Test Environment</b>	<b>Result</b>	<b>Remark</b>
1	3DMARK Score	<b>Intel(R) Core(TM) i3-2330E 2.20GHz A-DATA DDR3 1066 2GB (H57Q1G83AFP) Western Digital WD10EALX-009BA0 1TB</b>	PASS	2194
2	SM2.0 Score		PASS	687
3	HDR/SM3.0 Score		PASS	883
4	CPU Score		PASS	2632

**Windows XP SP2 64-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Test Environment</b>	<b>Result</b>	<b>Remark</b>
1	3DMARK Score	<b>Intel(R) Core(TM) i5-3210ME 2.50GHz Kingston DDR3 1333 4GB (D2568JPTCPGD9U) Transcend DDR3 1066 1GB (K4B1G0846D) Western Digital WD3200AAKS-00B3A0 320GB</b>	PASS	3266
2	SM2.0 Score		PASS	958
3	HDR/SM3.0 Score		PASS	1407
4	CPU Score		PASS	3227

**Windows XP SP2 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Test Environment</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>3DMARK Score</b>	<b>Intel(R) Core(TM) i7-3610QE 2.10GHz Transcend DDR3 1066 2GB (K4B1G0846D) Western Digital WD10EARS-00Y5B1 1TB</b>	PASS	3676
<b>2</b>	<b>SM2.0 Score</b>		PASS	1026
<b>3</b>	<b>HDR/SM3.0 Score</b>		PASS	1571
<b>4</b>	<b>CPU Score</b>		PASS	5884

## 5.6 PC MARK2002

<b>Test Environment</b>
<b>Intel(R) Core(TM) i5-3210ME 2.50GHz Kingston DDR3 1600 8GB (J420BBBG-GN-F)*2 Western Digital WD10EALX-009BA0 1TB</b>

### Windows XP SP2 64-bit

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>CPU Score</b>	PASS	13125
<b>2</b>	<b>Memory Score</b>	PASS	48742
<b>3</b>	<b>HDD Score</b>	PASS	2719

<b>Test Environment</b>
<b>Intel(R) Core(TM) i3-2330E 2.20GHz A-DATA DDR3 1066 1GB (K4B1G0846D) Western Digital WD10EALX-009BA0 1TB</b>

### Windows XP SP2 32-bit

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>CPU Score</b>	PASS	8934
<b>2</b>	<b>Memory Score</b>	PASS	28309
<b>3</b>	<b>HDD Score</b>	PASS	2446



<b>Test Environment</b>
<b>Intel(R) Core(TM) i3-2330E 2.20GHz</b> <b>A-DATA DDR3 1066 2GB (H57Q1G83AFP)</b> <b>Western Digital WD10EALX-009BA0 1TB</b>

**Windows XP SP2 32-bit**

Item	Weighted Suite	Result	Remark
1	CPU Score	PASS	8912
2	Memory Score	PASS	28469
3	HDD Score	PASS	2352

<b>Test Environment</b>
<b>Intel(R) Core(TM) i5-3210ME 2.50GHz</b> <b>Kingston DDR3 1333 4GB (D2568JPTCPGD9U)</b> <b>Transcend DDR3 1066 1GB (K4B1G0846D)</b> <b>Western Digital WD3200AAKS-00B3A0 320GB</b>

**Windows XP SP2 64-bit**

Item	Weighted Suite	Result	Remark
1	CPU Score	PASS	13106
2	Memory Score	PASS	45429
3	HDD Score	PASS	2768

<b>Test Environment</b>
<b>Intel(R) Core(TM) i7-3610QE 2.30GHz</b> <b>Transcend DDR3 1066 2GB (K4B1G0846D)</b> <b>Western Digital WD10EARS-00Y5B1 1TB</b>

**Windows XP SP2 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>CPU Score</b>	PASS	13952
<b>2</b>	<b>Memory Score</b>	PASS	55041
<b>3</b>	<b>HDD Score</b>	PASS	1678

## 5.7 PC MARK2004

<b>Test Environment</b>
Intel(R) Core(TM) i5-3210ME 2.50GHz Kingston DDR3 1600 8GB (J420BBBG-GN-F)*2 Western Digital WD10EALX-009BA0 1TB

### Windows XP PS2 64-bit

Item	Weighted Suite	Result	Remark
1	PCMark Score	PASS	N/A
2	CPU Score	PASS	N/A
3	Memory Score	PASS	13072
4	Graphic Score	PASS	6977
5	HDD Score	PASS	6321

<b>Test Environment</b>
Intel(R) Core(TM) i3-2330E 2.20GHz A-DATA DDR3 1066 1GB (K4B1G0846D) Western Digital WD10EALX-009BA0 1TB

### 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	6380
4	Graphic Score	PASS	3444
5	HDD Score	PASS	6219

<b>Test Environment</b>
<b>Intel(R) Core(TM) i3-2330E 2.20GHz</b> <b>A-DATA DDR3 1066 2GB (H57Q1G83AFP)</b> <b>Western Digital WD10EALX-009BA0 1TB</b>

**Windows XP PS2 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PCMark Score</b>	PASS	N/A
<b>2</b>	<b>CPU Score</b>	PASS	N/A
<b>3</b>	<b>Memory Score</b>	PASS	6541
<b>4</b>	<b>Graphic Score</b>	PASS	3505
<b>5</b>	<b>HDD Score</b>	PASS	6168

<b>Test Environment</b>
<b>Intel(R) Core(TM) i5-3210ME 2.50GHz</b> <b>Kingston DDR3 1333 4GB (D2568JPTCPGD9U)</b> <b>Transcend DDR3 1066 1GB (K4B1G0846D)</b> <b>Western Digital WD3200AAKS-00B3A0 320GB</b>

**Windows XP PS2 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PCMark Score</b>	PASS	N/A
<b>2</b>	<b>CPU Score</b>	PASS	N/A
<b>3</b>	<b>Memory Score</b>	PASS	9338
<b>4</b>	<b>Graphic Score</b>	PASS	5141
<b>5</b>	<b>HDD Score</b>	PASS	5677

**Intel(R) Core(TM) i7-3610QE 2.30GHz**  
**Transcend DDR3 1066 2GB (K4B1G0846D)**  
**Western Digital WD10EARS-00Y5B1 1TB**

**Windows XP PS2 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PCMark Score</b>	PASS	N/A
<b>2</b>	<b>CPU Score</b>	PASS	N/A
<b>3</b>	<b>Memory Score</b>	PASS	13772
<b>4</b>	<b>Graphic Score</b>	PASS	6503
<b>5</b>	<b>HDD Score</b>	PASS	N/A

## 5.8 PC MARK2005

<b>Test Environment</b>
Intel(R) Core(TM) i5-3210ME 2.50GHz Kingston DDR3 1600 8GB (J420BBBG-GN-F)*2 Western Digital WD10EALX-009BA0 1TB

### Windows XP SP2 64-bit

Item	Weighted Suite	Result	Remark
1	PCMark Score	PASS	7633
2	CPU Score	PASS	9294
3	Memory Score	PASS	10802
4	Graphic Score	PASS	6435
5	HDD Score	PASS	6649

<b>Test Environment</b>
Intel(R) Core(TM) i3-2330E 2.20GHz A-DATA DDR3 1066 1GB (K4B1G0846D) Western Digital WD10EALX-009BA0 1TB

### Windows XP SP2 32-bit

Item	Weighted Suite	Result	Remark
1	PCMark Score	PASS	5154
2	CPU Score	PASS	6688
3	Memory Score	PASS	6244
4	Graphic Score	PASS	2839
5	HDD Score	PASS	6612

<b>Test Environment</b>
<b>Intel(R) Core(TM) i3-2330E 2.20GHz</b> <b>A-DATA DDR3 1066 2GB (H57Q1G83AFP)</b> <b>Western Digital WD10EALX-009BA0 1TB</b>

**Windows XP SP2 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PCMark Score</b>	PASS	5282
<b>2</b>	<b>CPU Score</b>	PASS	6684
<b>3</b>	<b>Memory Score</b>	PASS	6250
<b>4</b>	<b>Graphic Score</b>	PASS	2880
<b>5</b>	<b>HDD Score</b>	PASS	6664

<b>Test Environment</b>
<b>Intel(R) Core(TM) i3-2330E 2.20GHz</b> <b>INNODISK DDR3 1333 4GB (H5TQ2G83CFR)*2</b> <b>Western Digital WD10EALX-009BA0 1TB</b>

**Windows XP SP2 64-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PCMark Score</b>	PASS	5214
<b>2</b>	<b>CPU Score</b>	PASS	5712
<b>3</b>	<b>Memory Score</b>	PASS	7608
<b>4</b>	<b>Graphic Score</b>	PASS	3601
<b>5</b>	<b>HDD Score</b>	PASS	5468

<b>Test Environment</b>
<b>Intel(R) Core(TM) i5-3210ME 2.50GHz</b> <b>Kingston DDR3 1333 4GB (D2568JPTCPGD9U)</b> <b>Transcend DDR3 1066 1GB (K4B1G0846D)</b> <b>Western Digital WD3200AAKS-00B3A0 320GB</b>

**Windows XP SP2 64-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PCMark Score</b>	PASS	N/A
<b>2</b>	<b>CPU Score</b>	PASS	9634
<b>3</b>	<b>Memory Score</b>	PASS	8438
<b>4</b>	<b>Graphic Score</b>	PASS	4201
<b>5</b>	<b>HDD Score</b>	PASS	6793

<b>Test Environment</b>
<b>Intel(R) Core(TM) i7-3610QE 2.30GHz</b> <b>Transcend DDR3 1066 2GB (K4B1G0846D)</b> <b>Western Digital WD10EARS-00Y5B1 1TB</b>

**Windows XP SP2 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PCMark Score</b>	PASS	7696
<b>2</b>	<b>CPU Score</b>	PASS	12035
<b>3</b>	<b>Memory Score</b>	PASS	9476
<b>4</b>	<b>Graphic Score</b>	PASS	4076
<b>5</b>	<b>HDD Score</b>	PASS	4901



<b>Test Environment</b>
<b>Intel(R) Core(TM) i7-2710QE 2.10GHz</b> <b>Acpi DDR3 1600 4GB (H5TQ2GB3EFR)</b> <b>Western Digital WD10EARS-00Y5B1 1TB</b>

**Windows XP SP2 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PCMark Score</b>	PASS	N/A
<b>2</b>	<b>CPU Score</b>	PASS	10003
<b>3</b>	<b>Memory Score</b>	PASS	9243
<b>4</b>	<b>Graphic Score</b>	PASS	N/A
<b>5</b>	<b>HDD Score</b>	PASS	4277

<b>Test Environment</b>
<b>Intel(R) Core(TM) i3-3120ME 2.40GHz</b> <b>Acpi DDR3 1600 2GB (H5TQ2GB3EFR)*2</b> <b>Western Digital WD10EARS-00Y5B1 1TB</b>

**Windows XP SP2 64-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PCMark Score</b>	PASS	6300
<b>2</b>	<b>CPU Score</b>	PASS	7744
<b>3</b>	<b>Memory Score</b>	PASS	8709
<b>4</b>	<b>Graphic Score</b>	PASS	5167
<b>5</b>	<b>HDD Score</b>	PASS	4608

<b>Test Environment</b>
<b>Intel(R) Core(TM) i5-2510E 2.50GHz Acpi DDR3 1600 4GB (H5TQ2GB3EFR) Western Digital WD10EALX-009BA0 1TB</b>

**Windows XP SP2 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PCMark Score</b>	PASS	6627
<b>2</b>	<b>CPU Score</b>	PASS	9114
<b>3</b>	<b>Memory Score</b>	PASS	8464
<b>4</b>	<b>Graphic Score</b>	PASS	3430
<b>5</b>	<b>HDD Score</b>	PASS	8283

## 5.9 Storage Performance

### 5.9.1 HDD

Test environment:

OS Windows XP professional SP2

Program (HD Tune) mSATA only support to LS-576TXDS' MINI CARD 1.

HDD Model	Interface	Capacity	Average	Burst Rate	Access time
HITACHI HTS543216L9A300	SATA	160 GB	16.6 MB/sec	109.8 MB/sec	19.8 ms
Western Digital WD2500BPVT-22JJ5T0	SATA	250 GB	51.9 MB/sec	98.8 MB/sec	18.9 ms
Western Digital WD3200BPVT-00JJ5T0	SATA	320 GB	63.5 MB/sec	73.2 MB/sec	18.6 ms
Western Digital WD3200AAKS-00B3A0	SATA	320 GB	92.9 MB/sec	123.3 MB/sec	15.8 ms
Western Digital WD10EARS-00Y5B1	SATA	1 TB	77.1 MB/sec	122.1 MB/sec	15.8 ms
Western Digital WD10EALX-009BA0	SATA	1 TB	102.1 MB/sec	122 MB/sec	13.5 ms
ADATA Flash Drive C906	USB	8 GB	16.7 MB/sec	14.7 MB/sec	1 ms
TDK LoR Trans-It Drive	USB	4 GB	17.8 MB/sec	15.6 MB/sec	1 ms
Intel SSDSC2CT060A3	SSD	60 GB	128.3 MB/sec	106.6 MB/sec	0.2 ms
Acpi MSS43-M	mSATA	32 GB	116.8 MB/sec	162.6 MB/sec	0.2 ms

## 5.9.2 DVD-ROM

Test environment:

OS Windows XP professional SP2

Program (NERO)

DVD-ROM Model	Interface	Average Speed	Full Read	Burst Rate	DVD
ASUS DRW-24D1ST	SATA	10.91 x	177 ms	41 MB/s	16 X DVD+R
PIONEER DVR-219L	SATA	10.29 x	200 ms	50 MB/s	16 X DVD+R
LITE-ON eTAU108	USB	4.63 x	177 ms	20 MB/s	16 X DVD+R
BUFFALO DVSM-PC58U2V	USB	5.11 x	223 ms	21 MB/s	16 X DVD+R

## 5.10 Vibration Test

Motherboard	LS-576TXDS_A			
Test Equipment	VS-5060L			
Amplitude	Degree	Frequency	Time (1min/1Time)	Result
0.75mm	40	5 → 55 → 5 Hz	10	PASS
1.00mm	55	5 → 55 → 5 Hz	10	PASS
1.25mm	70	5 → 55 → 5 Hz	10	PASS
1.5mm	90	5 → 55 → 5 Hz	10	PASS
1.5mm	90	5 → 55 → 5 Hz	120	PASS