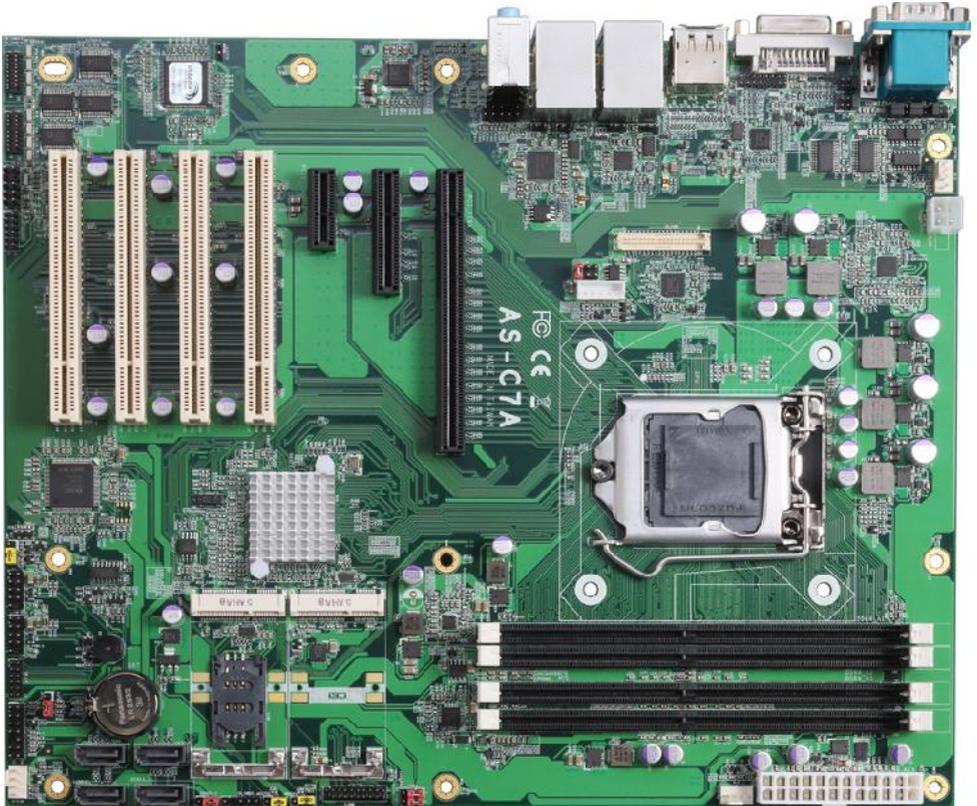


# Product Test Report



<b>Product Name</b>	<b>AS-C7A</b>
<b>Product Version</b>	<b>A</b>
<b>Issued Date</b>	<b>2016.09.05</b>
<b>Report Edition</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>Daniel</b>

<b>REVISION HISTORY</b>			
<b>DATE</b>	<b>REVISION NO.</b>	<b>PAGE</b>	<b>DESCRIPTONS</b>
<b>2016.09.05</b>	<b>Ver. 1.0</b>	<b>68</b>	<b>Initial Release</b>

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# 1. Function test

## 1.1 Hardware functions

### Base Function Test

Item	Description	Result
1	Power Button	PASS
2	Reset	PASS
3	Power LED	PASS
4	HDD LED	PASS
5	CPUFAN	PASS
6	SYSFAN	PASS
7	AUXFAN	PASS
8	AUDIO	PASS
9	CN_AUDIO	PASS
10	LAN1	PASS
11	LAN2	PASS
12	DDR4 A1/A2//B1/B2	PASS
13	SATA1/2/3/4	PASS
14	USB2.0 1/2/3/4	PASS
15	USB3.0 1/2/3/4/5/6	PASS
16	COM 1/2/3/4/5/6	PASS
17	DVI	PASS
18	HDMI	PASS
19	Display Port	PASS
20	CRT	PASS
21	LVDS	PASS
22	MINI_CRAD1	PASS
23	MINI_CRAD2	PASS

<b>24</b>	<b>PCI 1/2/3/4</b>	<b>PASS</b>
<b>25</b>	<b>PCIEX16</b>	<b>PASS</b>
<b>26</b>	<b>PCIEX4</b>	<b>PASS</b>
<b>27</b>	<b>PCIEX1</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>JAT</b>	<b>PASS</b>
<b>4</b>	<b>JP1</b>	<b>PASS</b>
<b>5</b>	<b>JP2</b>	<b>PASS</b>
<b>6</b>	<b>JCSEL1</b>	<b>PASS</b>
<b>7</b>	<b>JCSEL2</b>	<b>PASS</b>
<b>8</b>	<b>JVUSB</b>	<b>PASS</b>
<b>9</b>	<b>JMSATA1</b>	<b>PASS</b>
<b>10</b>	<b>JMSATA2</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	Halt On	PASS	
6	Selection Language	PASS	
7	Smart Fan Feature	PASS	
8	Serial Port	PASS	
9	Watch Dog Timer	PASS	
10	Set Supervisor Password	PASS	
11	Set User Password	PASS	
12	Quick Boot	PASS	
13	Diagnostic Splash Screen	PASS	
14	Diagnostic Summary Screen	PASS	
15	Watch Dog Timer	PASS	
16	SATA Mode Selection	PASS	
17	Power Control	PASS	
18	HD Audio	PASS	
19	USB Configuration	PASS	
20	HDD(AHCI)(Win 7)	PASS	
21	HDD(RAID)(Win 7)	PASS	

## 1.3 Driver

### CD edition : IPCI1-1.4

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

Item	Description	Result	Version
1	Chipset Driver	PASS	10.1.1
2	VGA Driver	PASS	20.19.15.4352
3	Audio Driver	PASS	6.0.1.7541
4	LAN Driver	PASS	12.13.17.4

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

Item	Description	Result	Version
1	Chipset Driver	PASS	10.1.1
2	VGA Driver	PASS	15.40.14.64.4352
3	Audio Driver	PASS	6.0.1.7541
4	LAN Driver	PASS	12.13.17.4

#### 3. Windows 8.1 32 bit Driver Test

Item	Description	Result	Version
1	Chipset Driver	PASS	10.1.1
2	Audio Driver	PASS	6.0.1.7541
3	LAN Driver	PASS	12.13.17.4

#### 4. Windows 8.1 64 bit Driver Test

Item	Description	Result	Version
1	Chipset Driver	PASS	10.1.1
2	VGA Driver	PASS	20.19.15.4352
3	Audio Driver	PASS	6.0.1.7541
4	LAN Driver	PASS	12.13.17.4

#### 5. Windows 10 32 bit Driver Test

Item	Description	Result	Version
1	Chipset Driver	PASS	10.1.1
2	Audio Driver	PASS	20.19.15.4331
3	LAN Driver	PASS	6.0.1.7541

#### 6. Windows 10 64 bit Driver Test

Item	Description	Result	Version
1	Chipset Driver	PASS	10.1.1
2	VGA Driver	PASS	15.40.14.64.4352
3	Audio Driver	PASS	6.0.1.7541
4	LAN Driver	PASS	12.13.17.4

## 2. Compatibility test

### 2.1 CPU Test

Test environment:

OS: Windows 7

Test program : PC MARK 2005

Spec	CPU Speed	Family	Processor	MAX TDP	Smart Cache	Result
<a href="#">SR2HG</a>	3.70GHz	CORE	i3-6100	51W	3 MB	PASS
<a href="#">SR2L6</a>	3.20GHz	CORE	i5-6500	65W	6 MB	PASS
<a href="#">SR2L2</a>	3.40GHz	CORE	i7-6700	65W	8 MB	PASS
<a href="#">SR2LK</a>	3.60GHz	XEON	E3-1275V5	80W	8 MB	PASS
<a href="#">SR2LP</a>	2.40GHz	CORE	i7-6700TE	35W	8 MB	PASS

### 2.2 Memory Test

Test environment:

OS: Windows 7

Test program : PC MARK 2005

Manufacturer	Chip	Frequency	Capacity Mbytes	Memory test Source
Acpi CMA6-3FA01AA R01M00	SK hynix H5N4G8NMFR	DDR4 2133	4 GB	PASS
Kingston KVR21N15S8/4	SK hynix H5AN4G8NMFR	DDR4 2133	4 GB	PASS
Acpi CMA6-3GA01AA R01M00	SK hynix H5N4G8NMFR	DDR4 2133	8 GB	PASS
Kingston KVR21N15D8/8	SK hynix H5AN4G8NMFR	DDR4 2133	8 GB	PASS

Transcend TS1GLH64V1H	SEC 446 BCPB K4A4G085WD	DDR4 2133	8 GB	PASS
Kingston KVR21N15D8/16	Micro 6HB77 D9TBH	DDR4 2133	16 GB	PASS
Transcend TS2GSH64V1B	SEC 619 BCPB K4A4G085WD	DDR4 2133	16 GB	PASS
ACPI CMA6-4HD03AA R01B00	SEC 625 BCRC K4A8G085WB	DDR4 2400	16 GB	PASS
Acpi CMA6-3FA01DA R01ME0(ECC)*	SK hynix H5N4G8NMFR	DDR4 2133	4 GB	PASS
Acpi CMA6-3GA01DA R01ME0(ECC)*	SK hynix H5N4G8NMFR	DDR4 2133	8 GB	PASS

**\*ECC Memory have to use with Xeon® E3-1200 v5 Processor.**

### 2.3 DVI / CRT Graphic Quality Test

Test environment:

OS Windows 7 64-bit

Driver version : 20.19.15.4352

Resolution	Color	Result	Remark
800 x 600	16 /32bit	PASS	
1024 x 768	16 /32bit	PASS	
1152 x 864	16 /32bit	PASS	
1280 x 600	16 /32bit	PASS	
1280 x 720	16 /32bit	PASS	
1280 x 768	16 /32bit	PASS	
1280 x 800	16 /32bit	PASS	

<b>1280 x 960</b>	<b>16 /32bit</b>	PASS	
<b>1280 x 1024</b>	<b>16 /32bit</b>	PASS	
<b>1360 x 768</b>	<b>16 /32bit</b>	PASS	
<b>1366 x 768</b>	<b>16 /32bit</b>	PASS	
<b>1400 x 1050</b>	<b>16 /32bit</b>	PASS	
<b>1440 x 900</b>	<b>16 /32bit</b>	PASS	
<b>1600 x 900</b>	<b>16 /32bit</b>	PASS	
<b>1680 x 1050</b>	<b>16 /32bit</b>	PASS	
<b>1920 x 1080</b>	<b>16 /32bit</b>	PASS	

## 2.4 HDMI / Display Port Graphic Quality Test

Test environment:

OS Windows 7 64bit

Driver version : 20.19.15.4352

<b>Resolution</b>	<b>Color</b>	<b>Result</b>	<b>Remark</b>
<b>800 x 600</b>	<b>16 /32bit</b>	PASS	
<b>1024 x 768</b>	<b>16 /32bit</b>	PASS	
<b>1152 x 864</b>	<b>16 /32bit</b>	PASS	
<b>1280 x 600</b>	<b>16 /32bit</b>	PASS	
<b>1280 x 720</b>	<b>16 /32bit</b>	PASS	
<b>1280 x 768</b>	<b>16 /32bit</b>	PASS	
<b>1280 x 800</b>	<b>16 /32bit</b>	PASS	
<b>1280 x 960</b>	<b>16 /32bit</b>	PASS	
<b>1280 x 1024</b>	<b>16 /32bit</b>	PASS	
<b>1360 x 768</b>	<b>16 /32bit</b>	PASS	
<b>1366 x 768</b>	<b>16 /32bit</b>	PASS	

<b>1400 x 1050</b>	<b>16 /32bit</b>	PASS	
<b>1440 x 900</b>	<b>16 /32bit</b>	PASS	
<b>1600 x 900</b>	<b>16 /32bit</b>	PASS	
<b>1600 x 1050</b>	<b>16 /32bit</b>	PASS	
<b>1920 x 1080</b>	<b>16 /32bit</b>	PASS	
<b>3840 x 2160</b>	<b>16 /32bit</b>	PASS	

## 2.5 Audio

**Test environment:**

**OS Windows 7 32/64-bit**

**Driver version : 6.0.1.7541**

Item	Description	Result	Remark
1	2.1CH	PASS	
2	Microphone	PASS	
3	LINE	PASS	

**OS Windows 8.1 32/64-bit**

**Driver version : 6.0.1.7541**

Item	Description	Result	Remark
1	2.1CH	PASS	
2	Microphone	PASS	
3	LINE	PASS	

## OS Windows 10 32/64-bit

Driver version :

Item	Description	Result	Remark
1	2.1CH	PASS	
2	Microphone	PASS	
3	LINE	PASS	

## OS Ubuntu 16.04

Item	Description	Result	Remark
1	2.1CH	PASS	

## 2.6 HDD Test

Test environment:

OS Windows 7

HDD Model	Interface	Capacity	HDD Size Detect	HDD Data Transfer	HDD LED Check
Seagate ST3160815AS	SATA	160 GB	PASS	PASS	PASS
Western Digital WD2500AAKS-00VYA0	SATA	250 GB	PASS	PASS	PASS
Western Digital WD3200BEKT-00F3T0	SATA	320 GB	PASS	PASS	PASS
Western Digital WD5000LPCX-22VHAT0	SATA	500 GB	PASS	PASS	PASS
Western Digital WD5000BPKT-00PK4T0	SATA	500 GB	PASS	PASS	PASS
Western Digital WD10EALX-009BA0	SATA	1.0 TB	PASS	PASS	PASS

<b>HDD Model</b>	<b>Interface</b>	<b>Capacity</b>	<b>HDD Size Detect</b>	<b>HDD Data Transfer</b>	<b>HDD LED Check</b>
<b>Western Digital WD10EALX-009BA0</b>	<b>SATA</b>	<b>1.0 TB</b>	PASS	PASS	PASS
<b>MemoRight MRSAJ6C064GC125C00</b>	<b>SSD</b>	<b>64 GB</b>	PASS	PASS	PASS
<b>INTEL SSDSC2BB120G4</b>	<b>SSD</b>	<b>120 GB</b>	PASS	PASS	PASS
<b>INTEL SSDSC2BW240A4</b>	<b>SSD</b>	<b>240 GB</b>	PASS	PASS	PASS
<b>KINGSTON SV300S37A24G</b>	<b>SSD</b>	<b>240 GB</b>	PASS	PASS	PASS

## 2.7 DVD-ROM Test

Test environment:

OS Windows 7

<b>DVD-ROM Model</b>	<b>Interface</b>	<b>DVD-ROM Detect</b>	<b>DVD-ROM Data Transfer</b>	<b>Play DVD</b>
<b>ASUS DRW-24D1ST</b>	<b>SATA</b>	PASS	PASS	PASS
<b>PIONEER DVR-S19LBK</b>	<b>SATA</b>	PASS	PASS	PASS
<b>LITE-ON iHES312</b>	<b>SATA</b>	PASS	PASS	PASS
<b>PIONEER DVR-XD11T</b>	<b>USB</b>	PASS	PASS	PASS
<b>LITEON DVD eTAU108</b>	<b>USB</b>	PASS	PASS	PASS

## 2.7 USB 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-ROM	PASS	
USB Mass storage	PASS	

### 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-ROM	PASS	
USB Mass storage	PASS	

### 3. Windows 10 32/64-bit

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

## 4. Ubuntu 16.04

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

## 2.8 Serial Port Test

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

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

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

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

### 3. Windows 10 32/64-bit

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

## 2.9 PS2 Keyboard 、 Mouse Test

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

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

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

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

### 3. Windows 10 32/64-bit

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

### 4. Ubuntu 16.04

Item	Description	Result	Remark
1	Device Manager Check	PASS	
2	Keyboard Typing Test	PASS	
3	Mouse Detect Test	PASS	

## 2.10 LAN Test

Data Transfer Test environment:

-CAT 6 UTP 100M

-8 HR. continuous

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

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

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

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

### 3. Windows 10 32/64-bit

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

### 4. Ubuntu 16.04

Item	Description	Result	Remark
1	Device Manager Check	PASS	

## 2.11 Power Supply Test

Item	Type	Description	Result	Remark
1	ATX Power	Seasonic SS-520GB 520W	PASS	
2	ATX Power	AcBel PC7008 430W	PASS	
3	ATX Power	Seasonic SS-520GB 520W	PASS	
4	ATX Power	AcBel PC7008 430W	PASS	

## 2.12 OS Install

Item	Description	Result	Remark
1	Windows 7 32/64 bit	PASS	
2	Windows 8.1 32/64 bit	PASS	
3	Windows 10 32/64 bit	PASS	
4	Ubuntu16.04 (4.4.0-21-generic)	PASS	

## 2.13 PCI Express Mini Card

Motherboard	PCI Express mini card	Remark
AS-C7A	MPX-210D	PASS
	MPX-210D2	PASS
	MPX-350	PASS
	MPX-574D	PASS
	MPX-574D2	PASS
	MPX-643	PASS
	MPX-750	PASS
	MPX-827	PASS

	<b>MPX-885</b>	PASS
	<b>MPX-954</b>	PASS
	<b>MPX-5201</b>	PASS
	<b>MPX-6864</b>	PASS
	<b>MPX-7202</b>	PASS
	<b>MPX-8188</b>	PASS
	<b>MPX-9125</b>	PASS
	<b>MPX-24794G2</b>	NO SUPPLY
	<b>MPX-25858</b>	PASS

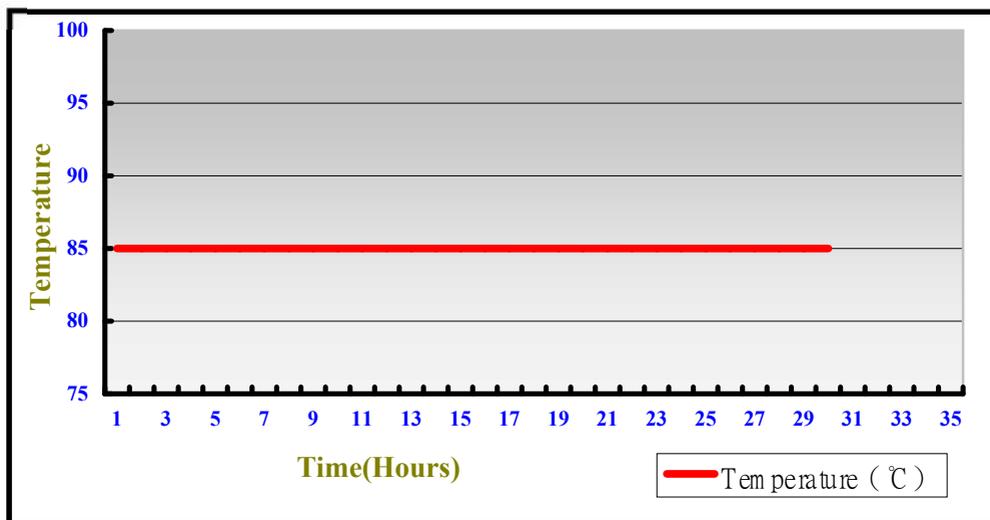
### 3. Environmental test

#### 3.1 Temperature Test

Hardware Device list:

System Board	AS-C7A_A
CPU	Intel(R) Core(TM) i5-6500 3.20GHz
Memory	acpi DDR4 2133 4GB (SKhynix H5N4G8NMFR)
HDD	MemoRight MRSAJ6C064GC125C00 64GB
Operating OS	Windows 7 32-bit
Test Equipment	THERMOTRON 2800 Programmer/Controller
Test Program	3DMark 2006 + Prime95

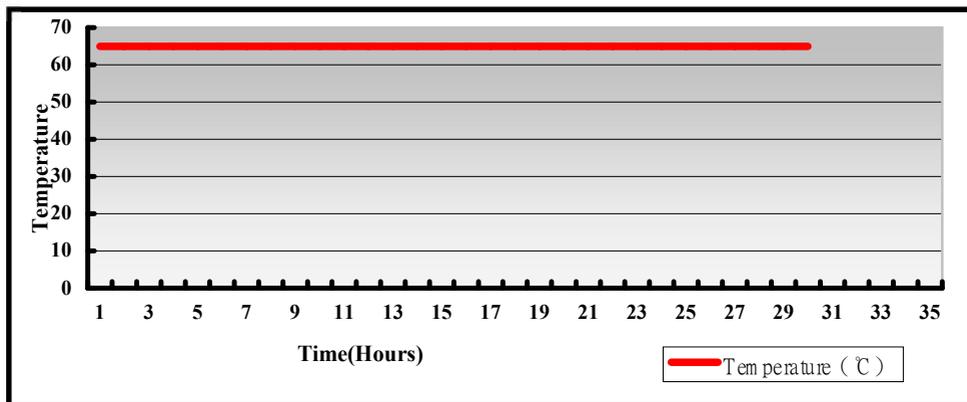
Test Result:



### Hardware Device list:

System Board	AS-C7A_A
CPU	Intel(R) Xeon(R) E3-1275v5 3.60GHz
Memory	acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)
HDD	Western Digital WD5000LPCX-22VHAT0 500GB
Operating OS	Windows 7 32-bit
Test Equipment	THERMOTRON 2800 Programmer/Controller
Test Program	3DMark 2006 + Prime95

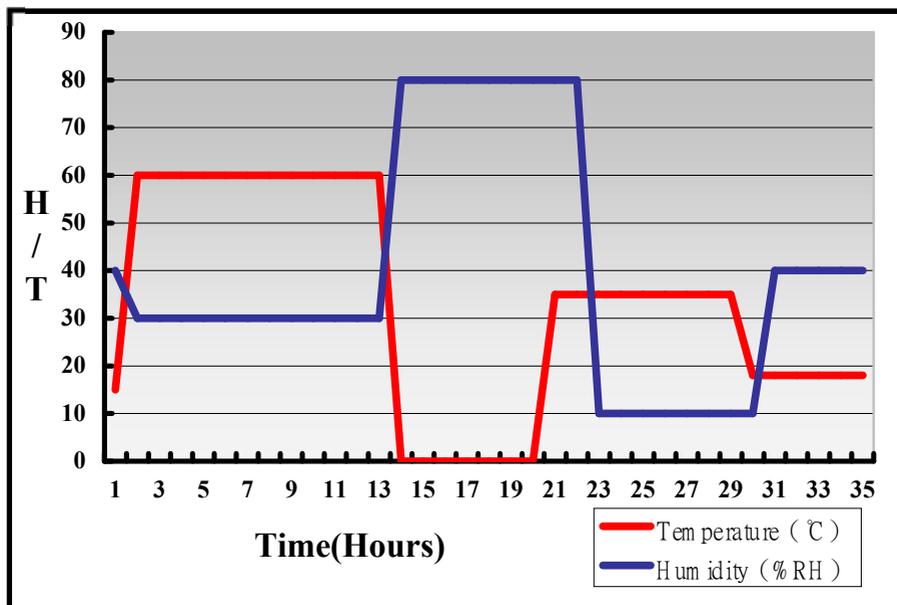
### Test Result:



### Hardware Device list:

System Board	AS-C7A_A
CPU	Intel(R) Core(TM) i5-6500 3.20GHz
Memory	acpi DDR4 2133 4GB (SKhynix H5N4G8NMFR)
HDD	MemoRight MRSAJ6C064GC125C00 64GB
Operating OS	Windows 7 32-bit
Test Equipment	THERMOTRON 2800 Programmer/Controller
Test Program	3DMark 2006 + Prime95

### Test Result:



## Boot up Test:

### Hardware Device list:

System Board	AS-C7A_A
CPU	Intel(R) Core(TM) i5-6500 3.20GHz
Memory	acpi DDR4 2133 4GB (SKhynix H5N4G8NMFR)
HDD	MemoRight MRSAJ6C064GC125C00 64GB

Temperature	Result	Remark
-20 °C	PASS	50 Times.
85 °C	PASS	50 Times

## 3.2 Thermal measurements at various points on the board

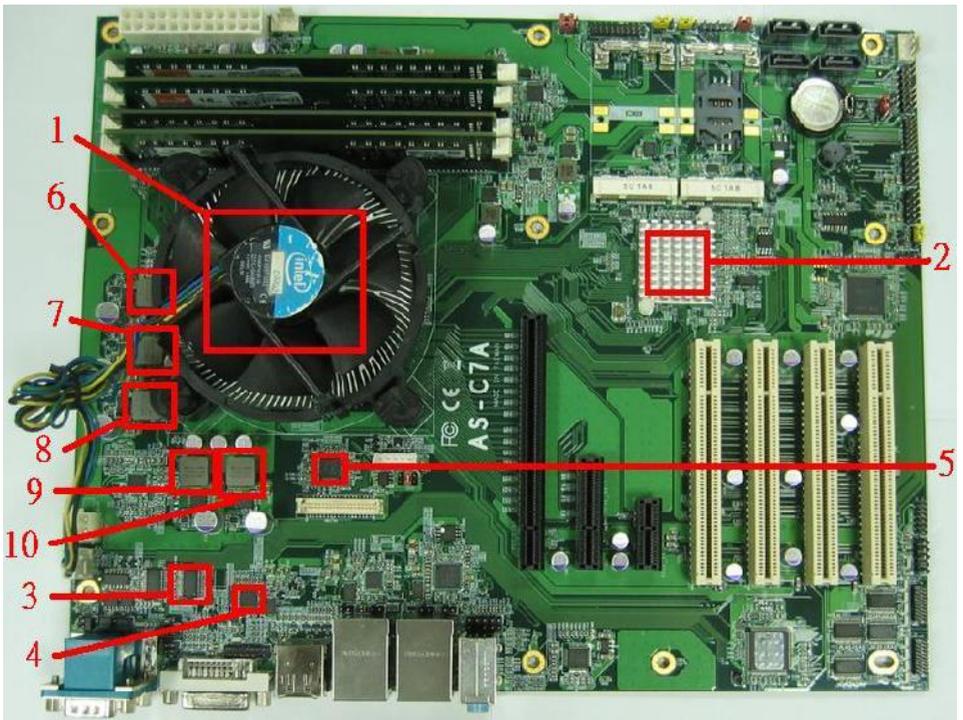
### Test Environment:

CPU	Intel(R) Xeon(R) E3-1275v5 3.60GHz
Memory	acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 9TBH)
HDD	Western Digital WD5000LPCX-22VHAT0 500GB
Power	Seasonic SS-520GB
Operating System	Windows 7 32-bit
Test Program	BurnIn6.0 + Prime95

### Test Result:

Item	Environmental temperature	23 °C
1	CPU	81 °C
2	PCH (ICH236)	36.1 °C
3	U11 (ICADM213ECA-A)	56 °C
4	U16 (ICPTN3355BS)	45.3 °C

5	U21 (ICPTN3460BS)	52.5°C
6	L1 (LLC0.36UH/0445)	65°C
7	L2 (LLC0.36UH/0445)	44°C
8	L3 (LLC0.36UH/0445)	42.6°C
9	L4 (LLC0.36UH/0445)	72°C
10	L5 (LLC0.36UH/0445)	57.7°C



## 4. Reliability Test

### 4.1 Power Consumption Test

#### 1. Test Environment:

<b>Motherboard</b>	<b>AS-C7A_A</b>
<b>CPU</b>	Intel(R) Core(TM) i7-6700 3.40GHz
<b>Memory</b>	acpi CMA6-4HD03AAR01B00 DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston KVR21N15D8/16 DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)
<b>HDD</b>	Western Digital WD5000LPCX-22VHAT0 500GB

**Power Supply: Seasonic SS-520GB 520W**

Voltage	MS-DOS Boot up		Windows 7 32-bit 3DMARK 2006 + Prime95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
<b>12V</b>	<b>1.64</b>	<b>19.68</b>	<b>4.74</b>	<b>56.88</b>
<b>5V</b>	<b>1.79</b>	<b>8.95</b>	<b>3.31</b>	<b>16.55</b>
<b>3.3V</b>	<b>0.38</b>	<b>1.254</b>	<b>0.36</b>	<b>1.188</b>
<b>5VSB</b>	<b>0.877</b>	<b>4.385</b>	<b>0.007</b>	<b>0.035</b>

#### 1. a. Test Environment:

The same as above but with LCD

<b>Display Panel</b>	<b>AUO M170EG01 17"LCD</b>
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**Power Supply: Seasonic SS-520GB 520W**

Voltage	MS-DOS Boot up		Windows 7 32-bit 3DMARK 2006 + Prime95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
<b>12V</b>	<b>2.9</b>	<b>3.48</b>	<b>6.92</b>	<b>83.64</b>
<b>5V</b>	<b>2.58</b>	<b>12.9</b>	<b>4.32</b>	<b>21.6</b>
<b>3.3V</b>	<b>0.42</b>	<b>1.386</b>	<b>0.5</b>	<b>1.65</b>
<b>5VSB</b>	<b>0.861</b>	<b>4.305</b>	<b>0.01</b>	<b>0.05</b>

## 2. Test Environment:

<b>Motherboard</b>	<b>AS-C7A_A</b>
<b>CPU</b>	Intel(R) Xeon(TM) E3-1275V5 3.60GHz
<b>Memory</b>	acpi CMA6-4HD03AAR01B00 DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston KVR21N15D8/16 DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)
<b>HDD</b>	Western Digital WD5000LPCX-22VHAT0 500GB

**Power Supply: Seasonic SS-520GB 520W**

Voltage	MS-DOS Boot up		Windows 7 32-bit 3DMARK 2006 + Prime95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
12V	2.15	25.8	5.94	71.28
5V	1.86	9.3	3.32	16.6
3.3V	0.37	1.221	0.8	2.64
5VSB	0.852	4.26	0.015	0.075

### 2. a. Test Environment:

The same as above but with LCD

<b>Display Panel</b>	<b>AUO M170EG01 17"LCD</b>
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**Power Supply: Seasonic SS-520GB 520W**

Voltage	MS-DOS Boot up		Windows 7 32-bit 3DMARK 2006 + Prime95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
12V	3.27	39.24	7.48	89.76
5V	3.13	1.565	4.39	21.95
3.3V	0.44	1.452	0.51	1.683
5VSB	0.802	4.01	0.033	0.165

### 3. Test Environment:

<b>Motherboard</b>	<b>AS-C7A_A</b>
<b>CPU</b>	Intel(R) Core(TM) i5-6500 3.20GHz
<b>Memory</b>	acpi CMA6-4HD03AAR01B00 DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston KVR21N15D8/16 DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)
<b>HDD</b>	Western Digital WD5000LPCX-22VHAT0 500GB

**Power Supply: Seasonic SS-520GB 520W**

Voltage	MS-DOS Boot up		Windows 7 32-bit 3DMARK 2006 + Prime95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
<b>12V</b>	<b>2.1</b>	<b>25.2</b>	<b>4.82</b>	<b>57.84</b>
<b>5V</b>	<b>1.72</b>	<b>8.6</b>	<b>2.72</b>	<b>13.6</b>
<b>3.3V</b>	<b>0.28</b>	<b>0.924</b>	<b>0.24</b>	<b>0.792</b>
<b>5VSB</b>	<b>0.88</b>	<b>4.4</b>	<b>0.016</b>	<b>0.08</b>

### 3. a. Test Environment:

The same as above but with LCD

<b>Display Panel</b>	<b>AUO M170EG01 17"LCD</b>
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**Power Supply: Seasonic SS-520GB 520W**

Voltage	MS-DOS Boot up		Windows 7 32-bit 3DMARK 2006 + Prime95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
<b>12V</b>	<b>3.24</b>	<b>38.88</b>	<b>5.89</b>	<b>70.68</b>
<b>5V</b>	<b>2.67</b>	<b>13.35</b>	<b>4.41</b>	<b>22.05</b>
<b>3.3V</b>	<b>0.42</b>	<b>1.386</b>	<b>0.4</b>	<b>1.32</b>
<b>5VSB</b>	<b>0.898</b>	<b>4.94</b>	<b>0.008</b>	<b>0.04</b>

#### 4. Test Environment:

<b>Motherboard</b>	<b>AS-C7A_A</b>
<b>CPU</b>	Intel(R) Core(TM) i3-6100 3.70GHz
<b>Memory</b>	acpi CMA6-4HD03AAR01B00 DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston KVR21N15D8/16 DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)
<b>HDD</b>	Western Digital WD5000LPCX-22VHAT0 500GB

**Power Supply: Seasonic SS-520GB 520W**

Voltage	MS-DOS Boot up		Windows 7 32-bit 3DMARK 2006 + Prime95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
<b>12V</b>	<b>1.69</b>	<b>20.28</b>	<b>4.09</b>	<b>49.08</b>
<b>5V</b>	<b>1.91</b>	<b>9.55</b>	<b>3.11</b>	<b>15.55</b>
<b>3.3V</b>	<b>0.93</b>	<b>3.069</b>	<b>0.26</b>	<b>0.858</b>
<b>5VSB</b>	<b>0.811</b>	<b>4.055</b>	<b>0.01</b>	<b>0.05</b>

#### 4. a. Test Environment:

The same as above but with LCD

<b>Display Panel</b>	<b>AUO M170EG01 17"LCD</b>
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**Power Supply: Seasonic SS-520GB 520W**

Voltage	MS-DOS Boot up		Windows 7 32-bit 3DMARK 2006 + Prime95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
<b>12V</b>	<b>2.96</b>	<b>35.52</b>	<b>5.46</b>	<b>65.52</b>
<b>5V</b>	<b>2.58</b>	<b>12.9</b>	<b>4.2</b>	<b>21</b>
<b>3.3V</b>	<b>0.96</b>	<b>3.168</b>	<b>0.42</b>	<b>1.386</b>
<b>5VSB</b>	<b>0.796</b>	<b>3.98</b>	<b>0.01</b>	<b>0.05</b>

## 5. Test Environment:

<b>Motherboard</b>	<b>AS-C7A_A</b>
<b>CPU</b>	Intel(R) Core(TM) i7-6700TE 2.40GHz
<b>Memory</b>	acpi CMA6-4HD03AAR01B00 DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston KVR21N15D8/16 DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)
<b>HDD</b>	Western Digital WD5000LPCX-22VHAT0 500GB

**Power Supply: Seasonic SS-520GB 520W**

Voltage	MS-DOS Boot up		Windows 7 32-bit 3DMARK 2006 + Prime95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
<b>12V</b>	<b>1.4</b>	<b>16.8</b>	<b>3.02</b>	<b>36.24</b>
<b>5V</b>	<b>1.93</b>	<b>9.65</b>	<b>3.24</b>	<b>16.2</b>
<b>3.3V</b>	<b>0.29</b>	<b>0.957</b>	<b>0.24</b>	<b>0.792</b>
<b>5VSB</b>	<b>0.86</b>	<b>4.3</b>	<b>0.009</b>	<b>0.045</b>

## 5. a. Test Environment:

The same as above but with LCD

<b>Display Panel</b>	<b>AUO M170EG01 17"LCD</b>
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**Power Supply: Seasonic SS-520GB 520W**

Voltage	MS-DOS Boot up		Windows 7 32-bit 3DMARK 2006 + Prime95	
	Current ( A )	Power ( W )	Current ( A )	Power ( W )
<b>12V</b>	<b>2.57</b>	<b>30.84</b>	<b>5.01</b>	<b>60.12</b>
<b>5V</b>	<b>2.72</b>	<b>13.6</b>	<b>4.17</b>	<b>0.834</b>
<b>3.3V</b>	<b>0.44</b>	<b>1.452</b>	<b>0.4</b>	<b>1.32</b>
<b>5VSB</b>	<b>0.836</b>	<b>4.18</b>	<b>0.017</b>	<b>0.085</b>

## 5. Performance Test

### 5.1 3D MARK(2003、2005)

Windows 7 32-bit

Weighted Suite	Test Environment	Result	Remark
3DMARK2003 Scores	Intel(R) Core(TM) i5-6500 3.20GHz acpi DDR4 2133 4GB (SKhynix H5N4G8NMFR)	PASS	16727
3DMARK2005 Scores	MemoRight MRSAJ6C064GC125C00 64GB	PASS	15216

Windows 7 32-bit

Weighted Suite	Test Environment	Result	Remark
3DMARK2003 Scores	Intel(R) Core(TM) i3-6100 3.70GHz acpi DDR4 2133 4GB (SKhynix H5N4G8NMFR)	PASS	16698
3DMARK2005 Scores	MemoRight MRSAJ6C064GC125C00 64GB	PASS	14104

**Windows 7 32-bit**

<b>Weighted Suite</b>	<b>Test Environment</b>	<b>Result</b>	<b>Remark</b>
<b>3DMARK2003 Scores</b>	Intel(R) Core(TM) i7-6700 3.40GHz acpi DDR4 2133 4GB (SKhynix H5N4G8NMFR)	PASS	19170
<b>3DMARK2005 Scores</b>	MemoRight MRSAJ6C064GC125C00 64GB	PASS	16865

**Windows 7 32-bit**

<b>Weighted Suite</b>	<b>Test Environment</b>	<b>Result</b>	<b>Remark</b>
<b>3DMARK2003 Scores</b>	Intel(R) Core(TM) i5-6500 3.20GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC)	PASS	23317
<b>3DMARK2005 Scores</b>	Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB	PASS	19759

### Windows 7 64-bit

Weighted Suite	Test Environment	Result	Remark
3DMARK2003 Scores	Intel(R) Core(TM) i5-6500 3.20GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2	PASS	22846
3DMARK2005 Scores	(Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB	PASS	18646

### Windows 7 32-bit

Weighted Suite	Test Environment	Result	Remark
3DMARK2003 Scores	Intel(R) Core(TM) i7-6700TE 2.40GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133	PASS	23088
3DMARK2005 Scores	16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB	PASS	19524

### Windows 7 64-bit

Weighted Suite	Test Environment	Result	Remark
3DMARK2003 Scores	Intel(R) Core(TM) i7-6700TE 2.4GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133	PASS	22932
3DMARK2005 Scores	16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB	PASS	16997

### Windows 7 32-bit

Weighted Suite	Test Environment	Result	Remark
3DMARK2003 Scores	Intel(R) Core(TM) i3-6100 3.70GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133	PASS	22814
3DMARK2005 Scores	16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB	PASS	20062

### Windows 7 64-bit

Weighted Suite	Test Environment	Result	Remark
3DMARK2003 Scores	Intel(R) Core(TM) i3-6100 3.70GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133	PASS	22714
3DMARK2005 Scores	16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB	PASS	3999

### Windows 7 32-bit

Weighted Suite	Test Environment	Result	Remark
3DMARK2003 Scores	Intel(R) Core(TM) i7-6700 3.40GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133	PASS	25142
3DMARK2005 Scores	16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB	PASS	21493

### Windows 7 64-bit

Weighted Suite	Test Environment	Result	Remark
3DMARK2003 Scores	Intel(R) Core(TM) i7-6700 3.40GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)	PASS	22932
3DMARK2005 Scores	Western Digital WD5000LPCX-22VHAT0 500GB	PASS	16997

### Windows 7 32-bit

Weighted Suite	Test Environment	Result	Remark
3DMARK2003 Scores	Intel(R) Xeon(R) E3-1275v5 3.60GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)	PASS	22581
3DMARK2005 Scores	Western Digital WD5000LPCX-22VHAT0 500GB	PASS	18506

## Windows 7 64-bit

Weighted Suite	Test Environment	Result	Remark
3DMARK2003 Scores	Intel(R) Xeon(R) E3-1275v5 3.60GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)	PASS	24983
3DMARK2005 Scores	Western Digital WD5000LPCX-22VHAT0 500GB	PASS	4168

## 5.2 3D MARK2006

### Windows 7 32-bit

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK Source	Intel(R) Core(TM) i5-6500 3.20GHz	PASS	11631
2	SM2.0 Source	acpi DDR4 2133 4GB (SKhynix H5N4G8NMFR)	PASS	3634
3	HDR/SM3.0 Source	MemoRight MRSAJ6C064GC125C00	PASS	5421
4	CPU Source	64GB	PASS	6412

**Windows 7 32-bit**

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK Source	Intel(R) Core(TM) i3-6100 3.70GHz acpi DDR4 2133 4GB (SKhynix H5N4G8NMFR) MemoRight MRSAJ6C064GC125C00 64GB	PASS	10342
2	SM2.0 Source		PASS	3316
3	HDR/SM3.0 Source		PASS	4703
4	CPU Source		PASS	5045

**Windows 7 32-bit**

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK Source	Intel(R) Core(TM) i7-6700 3.40GHz acpi DDR4 2133 4GB (SKhynix H5N4G8NMFR) MemoRight MRSAJ6C064GC125C00 64GB	PASS	13188
2	SM2.0 Source		PASS	4088
3	HDR/SM3.0 Source		PASS	5886
4	CPU Source		PASS	7847

**Windows 7 32-bit**

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK Source	Intel(R) Core(TM) i5-6500 3.20GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB	PASS	11451
2	SM2.0 Source		PASS	3895
3	HDR/SM3.0 Source		PASS	4830
4	CPU Source		PASS	6388

**Windows 7 64-bit**

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK Source	Intel(R) Core(TM) i5-6500 3.20GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB	PASS	10977
2	SM2.0 Source		PASS	3762
3	HDR/SM3.0 Source		PASS	4617
4	CPU Source		PASS	6031

**Windows 7 32-bit**

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK Source	Intel(R) Core(TM) i5-6500 3.20GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB	PASS	11329
2	SM2.0 Source		PASS	3848
3	HDR/SM3.0 Source		PASS	4755
4	CPU Source		PASS	6502

**Windows 7 64-bit**

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK Source	Intel(R) Core(TM) i5-6500 3.20GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB	PASS	11230
2	SM2.0 Source		PASS	3880
3	HDR/SM3.0 Source		PASS	4734
4	CPU Source		PASS	5936

### Windows 7 32-bit

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK Source	Intel(R) Core(TM) i7-6700TE 2.40GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB	PASS	11329
2	SM2.0 Source		PASS	3848
3	HDR/SM3.0 Source		PASS	4755
4	CPU Source		PASS	6502

### Windows 7 64-bit

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK Source	Intel(R) Core(TM) i7-6700TE 2.40GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB	PASS	11230
2	SM2.0 Source		PASS	3880
3	HDR/SM3.0 Source		PASS	4734
4	CPU Source		PASS	5936

**Windows 7 32-bit**

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK Source	Intel(R) Core(TM) i3-6100 3.70GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB	PASS	11002
2	SM2.0 Source		PASS	3884
3	HDR/SM3.0 Source		PASS	4718
4	CPU Source		PASS	5072

**Windows 7 64-bit**

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK Source	Intel(R) Core(TM) i3-6100 3.70GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB	PASS	10997
2	SM2.0 Source		PASS	3872
3	HDR/SM3.0 Source		PASS	4723
4	CPU Source		PASS	5080

**Windows 7 32-bit**

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK Source	Intel(R) Core(TM) i7-6700 3.40GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB	PASS	12894
2	SM2.0 Source		PASS	4365
3	HDR/SM3.0 Source		PASS	5363
4	CPU Source		PASS	7844

**Windows 7 64-bit**

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK Source	Intel(R) Core(TM) i7-6700 3.40GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB	PASS	12800
2	SM2.0 Source		PASS	4335
3	HDR/SM3.0 Source		PASS	5315
4	CPU Source		PASS	7835

**Windows 7 32-bit**

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK Source	<b>Intel(R) Xeon(R) E3-1275v5 3.60GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB</b>	PASS	10766
2	SM2.0 Source		PASS	3630
3	HDR/SM3.0 Source		PASS	4456
4	CPU Source		PASS	6825

**Windows 7 64-bit**

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK Source	<b>Intel(R) Xeon(R) E3-1275v5 3.60GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB</b>	PASS	12854
2	SM2.0 Source		PASS	4365
3	HDR/SM3.0 Source		PASS	5326
4	CPU Source		PASS	7870

### 5.3 3D MARK VANTAGE

#### Windows 7 32-bit

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK SCORE	Intel(R) Core(TM) i5-6500 3.20GHz acpi DDR4 2400 16GB*2 (SEC 625	PASS	P6498
2	GPU SCORE	K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)	PASS	5311
3	CPU SCORE	Western Digital WD5000LPCX-22VHAT0 500GB	PASS	19723

#### Windows 7 64-bit

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK SCORE	Intel(R) Core(TM) i5-6500 3.20GHz acpi DDR4 2400 16GB*2 (SEC 625	PASS	P6074
2	GPU SCORE	K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)	PASS	4996
3	CPU SCORE	Western Digital WD5000LPCX-22VHAT0 500GB	PASS	17220

**Windows 7 32-bit**

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK SCORE	Intel(R) Core(TM) i7-6700TE 2.40GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB	PASS	P6349
2	GPU SCORE		PASS	5110
3	CPU SCORE		PASS	23269

**Windows 7 64-bit**

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK SCORE	Intel(R) Core(TM) i7-6700TE 2.40GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB	PASS	P6384
2	GPU SCORE		PASS	5142
3	CPU SCORE		PASS	23183

### Windows 7 32-bit

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK SCORE	Intel(R) Core(TM) i3-6100 3.70GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB	PASS	P5979
2	GPU SCORE		PASS	5012
3	CPU SCORE		PASS	14205

### Windows 7 64-bit

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK SCORE	Intel(R) Core(TM) i3-6100 3.70GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB	PASS	P5985
2	GPU SCORE		PASS	5023
3	CPU SCORE		PASS	14057

**Windows 7 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Test Environment</b>	<b>Result</b>	<b>Remark</b>
1	3DMARK SCORE	Intel(R) Core(TM) i7-6700 3.40GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB	PASS	P7297
2	GPU SCORE		PASS	5833
3	CPU SCORE		PASS	29484

**Windows 7 64-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Test Environment</b>	<b>Result</b>	<b>Remark</b>
1	3DMARK SCORE	Intel(R) Core(TM) i7-6700 3.40GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB	PASS	P7221
2	GPU SCORE		PASS	5772
3	CPU SCORE		PASS	29270

**Windows 7 32-bit**

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK SCORE	Intel(R) Xeon(R) E3-1275v5 3.60GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB	PASS	P7306
2	GPU SCORE		PASS	5836
3	CPU SCORE		PASS	29862

**Windows 7 64-bit**

Item	Weighted Suite	Test Environment	Result	Remark
1	3DMARK SCORE	Intel(R) Xeon(R) E3-1275v5 3.60GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB	PASS	P7220
2	GPU SCORE		PASS	5768
3	CPU SCORE		PASS	29509

## 5.4 PC MARK2002

<b>Test Environment</b>
Intel(R) Core(TM) i5-6500 3.20GHz acpi DDR4 2133 4GB (SKhynix H5N4G8NMFR) MemoRight MRSAJ6C064GC125C00 64GB

### Windows 7 32-bit

Item	Weighted Suite	Result	Remark
1	CPU test Source	PASS	N/A
2	Memory test Source	PASS	64030
3	HDD test Source	PASS	4428

<b>Test Environment</b>
Intel(R) Core(TM) i3-6100 3.70GHz acpi DDR4 2133 4GB (SKhynix H5N4G8NMFR) MemoRight MRSAJ6C064GC125C00 64GB

### Windows 7 32-bit

Item	Weighted Suite	Result	Remark
1	CPU test Source	PASS	N/A
2	Memory test Source	PASS	62783
3	HDD test Source	PASS	4693

<b>Test Environment</b>
<b>Intel(R) Core(TM) i7-6700 3.40GHz</b> <b>acpi DDR4 2133 4GB (SKhynix H5N4G8NMFR)</b> <b>MemoRight MRSAJ6C064GC125C00 64GB</b>

**Windows 7 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>CPU test Source</b>	PASS	N/A
<b>2</b>	<b>Memory test Source</b>	PASS	72030
<b>3</b>	<b>HDD test Source</b>	PASS	4204

<b>Test Environment</b>
<b>Intel(R) Core(TM) i5-6500 3.20GHz</b> <b>acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC)</b> <b>Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)</b> <b>Western Digital WD5000LPCX-22VHAT0 500GB</b>

**Windows 7 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>CPU test Source</b>	PASS	N/A
<b>2</b>	<b>Memory test Source</b>	PASS	64006
<b>3</b>	<b>HDD test Source</b>	PASS	2982

Test Environment
Intel(R) Core(TM) i5-6500 3.20GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB

**Windows 7 64-bit**

Item	Weighted Suite	Result	Remark
1	CPU test Source	PASS	N/A
2	Memory test Source	PASS	52027
3	HDD test Source	PASS	2793

Test Environment
Intel(R) Core(TM) i7-6700TE 2.40GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB

**Windows 7 32-bit**

Item	Weighted Suite	Result	Remark
1	CPU test Source	PASS	N/A
2	Memory test Source	PASS	60008
3	HDD test Source	PASS	3526

<b>Test Environment</b>
<b>Intel(R) Core(TM) i7-6700TE 2.40GHz</b> <b>acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC)</b> <b>Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)</b> <b>Western Digital WD5000LPCX-22VHAT0 500GB</b>

**Windows 7 64-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>CPU test Source</b>	PASS	N/A
<b>2</b>	<b>Memory test Source</b>	PASS	46359
<b>3</b>	<b>HDD test Source</b>	PASS	2731

<b>Test Environment</b>
<b>Intel(R) Core(TM) i3-6100 3.70GHz</b> <b>acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC)</b> <b>Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)</b> <b>Western Digital WD5000LPCX-22VHAT0 500GB</b>

**Windows 7 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>CPU test Source</b>	PASS	N/A
<b>2</b>	<b>Memory test Source</b>	PASS	62817
<b>3</b>	<b>HDD test Source</b>	PASS	3161

Test Environment
Intel(R) Core(TM) i3-6100 3.70GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB

**Windows 7 64-bit**

Item	Weighted Suite	Result	Remark
1	CPU test Source	PASS	N/A
2	Memory test Source	PASS	61950
3	HDD test Source	PASS	2334

Test Environment
Intel(R) Core(TM) i7-6700 3.40GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB

**Windows 7 32-bit**

Item	Weighted Suite	Result	Remark
1	CPU test Source	PASS	N/A
2	Memory test Source	PASS	70789
3	HDD test Source	PASS	2570

<b>Test Environment</b>
<b>Intel(R) Core(TM) i7-6700 3.40GHz</b> <b>acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC)</b> <b>Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)</b> <b>Western Digital WD5000LPCX-22VHAT0 500GB</b>

**Windows 7 64-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>CPU test Source</b>	PASS	N/A
<b>2</b>	<b>Memory test Source</b>	PASS	72101
<b>3</b>	<b>HDD test Source</b>	PASS	2481

<b>Test Environment</b>
<b>Intel(R) Xeon(R) E3-1275v5 3.60GHz</b> <b>acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC)</b> <b>Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)</b> <b>Western Digital WD5000LPCX-22VHAT0 500GB</b>

**Windows 7 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>CPU test Source</b>	PASS	N/A
<b>2</b>	<b>Memory test Source</b>	PASS	71621
<b>3</b>	<b>HDD test Source</b>	PASS	2926

<b>Test Environment</b>
<b>Intel(R) Xeon(R) E3-1275v5 3.60GHz</b> <b>acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC)</b> <b>Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)</b> <b>Western Digital WD5000LPCX-22VHAT0 500GB</b>

**Windows 7 64-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
1	<b>CPU test Source</b>	PASS	N/A
2	<b>Memory test Source</b>	PASS	72020
3	<b>HDD test Source</b>	PASS	2866

**5.4 PC MARK2004**

<b>Test Environment</b>
<b>Intel(R) Core(TM) i5-6500 3.20GHz</b> <b>acpi DDR4 2133 4GB (SKhynix H5N4G8NMFR)</b> <b>MemoRight MRSAJ6C064GC125C00 64GB</b>

**Windows 7 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
1	<b>PC Mark Source</b>	PASS	N/A
2	<b>CPU test Source</b>	PASS	N/A
3	<b>Memory test Source</b>	PASS	17722
4	<b>Graphic test Source</b>	PASS	13816
5	<b>HDD test Source</b>	PASS	22877

<b>Test Environment</b>
<b>Intel(R) Core(TM) i5-6100 3.70GHz</b> <b>acpi DDR4 2133 4GB (SKhynix H5N4G8NMFR)</b> <b>MemoRight MRSAJ6C064GC125C00 64GB</b>

**Windows 7 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
1	PC Mark Source	PASS	N/A
2	CPU test Source	PASS	N/A
3	Memory test Source	PASS	14673
4	Graphic test Source	PASS	10561
5	HDD test Source	PASS	24809

<b>Test Environment</b>
<b>Intel(R) Core(TM) i7-6700 3.40GHz</b> <b>acpi DDR4 2133 4GB (SKhynix H5N4G8NMFR)</b> <b>MemoRight MRSAJ6C064GC125C00 64GB</b>

**Windows 7 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
1	PC Mark Source	PASS	N/A
2	CPU test Source	PASS	N/A
3	Memory test Source	PASS	20734
4	Graphic test Source	PASS	15269
5	HDD test Source	PASS	22626

Test Environment
Intel(R) Core(TM) i5-6500 3.20GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB

**Windows 32-bit**

Item	Weighted Suite	Result	Remark
1	PC Mark Source	PASS	N/A
2	CPU test Source	PASS	N/A
3	Memory test Source	PASS	17747
4	Graphic test Source	PASS	14572
5	HDD test Source	PASS	N/A

Test Environment
Intel(R) Core(TM) i5-6500 3.20GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB

**Windows 64-bit**

Item	Weighted Suite	Result	Remark
1	PC Mark Source	PASS	N/A
2	CPU test Source	PASS	N/A
3	Memory test Source	PASS	14648
4	Graphic test Source	PASS	14177
5	HDD test Source	PASS	N/A

<b>Test Environment</b>
<b>Intel(R) Core(TM) i7-6700TE 2.40GHz</b> <b>acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC)</b> <b>Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)</b> <b>Western Digital WD5000LPCX-22VHAT0 500GB</b>

**Windows 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PC Mark Source</b>	PASS	N/A
<b>2</b>	<b>CPU test Source</b>	PASS	N/A
<b>3</b>	<b>Memory test Source</b>	PASS	17885
<b>4</b>	<b>Graphic test Source</b>	PASS	14397
<b>5</b>	<b>HDD test Source</b>	PASS	N/A

<b>Test Environment</b>
<b>Intel(R) Core(TM) i7-6700TE 2.40GHz</b> <b>acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC)</b> <b>Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)</b> <b>Western Digital WD5000LPCX-22VHAT0 500GB</b>

**Windows 64-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PC Mark Source</b>	PASS	N/A
<b>2</b>	<b>CPU test Source</b>	PASS	N/A
<b>3</b>	<b>Memory test Source</b>	PASS	13381
<b>4</b>	<b>Graphic test Source</b>	PASS	13570
<b>5</b>	<b>HDD test Source</b>	PASS	N/A

<b>Test Environment</b>
<b>Intel(R) Core(TM) i3-6100 3.70GHz</b> <b>acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC)</b> <b>Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)</b> <b>Western Digital WD5000LPCX-22VHAT0 500GB</b>

**Windows 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PC Mark Source</b>	PASS	N/A
<b>2</b>	<b>CPU test Source</b>	PASS	N/A
<b>3</b>	<b>Memory test Source</b>	PASS	16821
<b>4</b>	<b>Graphic test Source</b>	PASS	15434
<b>5</b>	<b>HDD test Source</b>	PASS	N/A

<b>Test Environment</b>
<b>Intel(R) Core(TM) i3-6100 3.70GHz</b> <b>acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC)</b> <b>Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)</b> <b>Western Digital WD5000LPCX-22VHAT0 500GB</b>

**Windows 64-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PC Mark Source</b>	PASS	N/A
<b>2</b>	<b>CPU test Source</b>	PASS	N/A
<b>3</b>	<b>Memory test Source</b>	PASS	16608
<b>4</b>	<b>Graphic test Source</b>	PASS	14339
<b>5</b>	<b>HDD test Source</b>	PASS	N/A

<b>Test Environment</b>
<b>Intel(R) Core(TM) i7-6700 3.40GHz</b> <b>acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC)</b> <b>Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)</b> <b>Western Digital WD5000LPCX-22VHAT0 500GB</b>

**Windows 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PC Mark Source</b>	PASS	N/A
<b>2</b>	<b>CPU test Source</b>	PASS	N/A
<b>3</b>	<b>Memory test Source</b>	PASS	20734
<b>4</b>	<b>Graphic test Source</b>	PASS	16316
<b>5</b>	<b>HDD test Source</b>	PASS	N/A

<b>Test Environment</b>
<b>Intel(R) Core(TM) i7-6700 3.40GHz</b> <b>acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC)</b> <b>Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)</b> <b>Western Digital WD5000LPCX-22VHAT0 500GB</b>

**Windows 64-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>PC Mark Source</b>	PASS	N/A
<b>2</b>	<b>CPU test Source</b>	PASS	N/A
<b>3</b>	<b>Memory test Source</b>	PASS	20973
<b>4</b>	<b>Graphic test Source</b>	PASS	16282
<b>5</b>	<b>HDD test Source</b>	PASS	N/A

<b>Test Environment</b>
<b>Intel(R) Xeon(R) E3-1275v5 3.60GHz</b> <b>acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC)</b> <b>Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)</b> <b>Western Digital WD5000LPCX-22VHAT0 500GB</b>

**Windows 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
1	<b>PC Mark Source</b>	PASS	N/A
2	<b>CPU test Source</b>	PASS	N/A
3	<b>Memory test Source</b>	PASS	20729
4	<b>Graphic test Source</b>	PASS	16323
5	<b>HDD test Source</b>	PASS	N/A

<b>Test Environment</b>
<b>Intel(R) Xeon(R) E3-1275v5 3.60GHz</b> <b>acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC)</b> <b>Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)</b> <b>Western Digital WD5000LPCX-22VHAT0 500GB</b>

**Windows 64-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
1	<b>PC Mark Source</b>	PASS	N/A
2	<b>CPU test Source</b>	PASS	N/A
3	<b>Memory test Source</b>	PASS	20981
4	<b>Graphic test Source</b>	PASS	16622
5	<b>HDD test Source</b>	PASS	N/A

## 5.5 PC MARK2005

<b>Test Environment</b>
<b>Intel(R) Core(TM) i5-6500 3.20GHz</b> <b>acpi DDR4 2133 4GB (SKhynix H5N4G8NMFR)</b> <b>MemoRight MRSAJ6C064GC125C00 64GB</b>

Windows 7 32-bit

Item	Weighted Suite	Result	Remark
1	System test Source	PASS	N/A
2	CPU test Source	PASS	14548
3	Memory test Source	PASS	12421
4	Graphic test Source	PASS	N/A
5	HDD test Source	PASS	15020

<b>Test Environment</b>
<b>Intel(R) Core(TM) i3-6100 3.70GHz</b> <b>acpi DDR4 2133 4GB (SKhynix H5N4G8NMFR)</b> <b>MemoRight MRSAJ6C064GC125C00 64GB</b>

Windows 7 32-bit

Item	Weighted Suite	Result	Remark
1	System test Source	PASS	N/A
2	CPU test Source	PASS	13575
3	Memory test Source	PASS	11852
4	Graphic test Source	PASS	N/A
5	HDD test Source	PASS	14696

<b>Test Environment</b>
<b>Intel(R) Core(TM) i7-6700 3.40GHz</b> <b>acpi DDR4 2133 4GB (SKhynix H5N4G8NMFR)</b> <b>MemoRight MRSAJ6C064GC125C00 64GB</b>

**Windows 7 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
1	<b>System test Source</b>	PASS	N/A
2	<b>CPU test Source</b>	PASS	16241
3	<b>Memory test Source</b>	PASS	14414
4	<b>Graphic test Source</b>	PASS	N/A
5	<b>HDD test Source</b>	PASS	15058

<b>Test Environment</b>
<b>Intel(R) Core(TM) i5-6500 3.20GHz</b> <b>acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC)</b> <b>Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)</b> <b>Western Digital WD5000LPCX-22VHAT0 500GB</b>

**Windows 7 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
1	<b>System test Source</b>	PASS	N/A
2	<b>CPU test Source</b>	PASS	14547
3	<b>Memory test Source</b>	PASS	14381
4	<b>Graphic test Source</b>	PASS	N/A
5	<b>HDD test Source</b>	PASS	N/A

Test Environment
Intel(R) Core(TM) i5-6500 3.20GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB

**Windows 7 64-bit**

Item	Weighted Suite	Result	Remark
1	System test Source	PASS	N/A
2	CPU test Source	PASS	12959
3	Memory test Source	PASS	12013
4	Graphic test Source	PASS	N/A
5	HDD test Source	PASS	N/A

Test Environment
Intel(R) Core(TM) i7-6700TE 2.40GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB

**Windows 7 32-bit**

Item	Weighted Suite	Result	Remark
1	System test Source	PASS	N/A
2	CPU test Source	PASS	13645
3	Memory test Source	PASS	14666
4	Graphic test Source	PASS	N/A
5	HDD test Source	PASS	N/A

<b>Test Environment</b>
<b>Intel(R) Core(TM) i7-6700TE 2.40GHz</b> <b>acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC)</b> <b>Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)</b> <b>Western Digital WD5000LPCX-22VHAT0 500GB</b>

**Windows 7 64-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>System test Source</b>	PASS	N/A
<b>2</b>	<b>CPU test Source</b>	PASS	10788
<b>3</b>	<b>Memory test Source</b>	PASS	11451
<b>4</b>	<b>Graphic test Source</b>	PASS	N/A
<b>5</b>	<b>HDD test Source</b>	PASS	N/A

<b>Test Environment</b>
<b>Intel(R) Core(TM) i3-6100 3.70GHz</b> <b>acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC)</b> <b>Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)</b> <b>Western Digital WD5000LPCX-22VHAT0 500GB</b>

**Windows 7 32-bit**

<b>Item</b>	<b>Weighted Suite</b>	<b>Result</b>	<b>Remark</b>
<b>1</b>	<b>System test Source</b>	PASS	N/A
<b>2</b>	<b>CPU test Source</b>	PASS	13625
<b>3</b>	<b>Memory test Source</b>	PASS	14152
<b>4</b>	<b>Graphic test Source</b>	PASS	N/A
<b>5</b>	<b>HDD test Source</b>	PASS	N/A

Test Environment
Intel(R) Core(TM) i3-6100 3.70GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB

**Windows 7 64-bit**

Item	Weighted Suite	Result	Remark
1	System test Source	PASS	N/A
2	CPU test Source	PASS	13562
3	Memory test Source	PASS	14313
4	Graphic test Source	PASS	N/A
5	HDD test Source	PASS	N/A

Test Environment
Intel(R) Core(TM) i7-6700 3.40GHz acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC) Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH) Western Digital WD5000LPCX-22VHAT0 500GB

**Windows 7 32-bit**

Item	Weighted Suite	Result	Remark
1	System test Source	PASS	N/A
2	CPU test Source	PASS	16230
3	Memory test Source	PASS	16360
4	Graphic test Source	PASS	N/A
5	HDD test Source	PASS	N/A

Test Environment
<b>Intel(R) Core(TM) i7-6700 3.40GHz</b> <b>acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC)</b> <b>Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)</b> <b>Western Digital WD5000LPCX-22VHAT0 500GB</b>

**Windows 7 64-bit**

Item	Weighted Suite	Result	Remark
1	System test Source	PASS	N/A
2	CPU test Source	PASS	16261
3	Memory test Source	PASS	17195
4	Graphic test Source	PASS	N/A
5	HDD test Source	PASS	N/A

Test Environment
<b>Intel(R) Xeon(R) E3-1275v5 3.60GHz</b> <b>acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC)</b> <b>Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)</b> <b>Western Digital WD5000LPCX-22VHAT0 500GB</b>

**Windows 7 32-bit**

Item	Weighted Suite	Result	Remark
1	System test Source	PASS	N/A
2	CPU test Source	PASS	12062
3	Memory test Source	PASS	11815
4	Graphic test Source	PASS	N/A
5	HDD test Source	PASS	N/A

Test Environment	
Intel(R) Xeon(R) E3-1275v5	3.60GHz
acpi DDR4 2400 16GB*2 (SEC 625 K4A8G08 5WBBCRC)	
Kingston DDR4 2133 16GB*2 (Micro 6HB77 D9TBH)	
Western Digital WD5000LPCX-22VHAT0	500GB

Windows 7 64-bit

Item	Weighted Suite	Result	Remark
1	System test Source	PASS	N/A
2	CPU test Source	PASS	16257
3	Memory test Source	PASS	16898
4	Graphic test Source	PASS	N/A
5	HDD test Source	PASS	N/A

## 5.6 Storage Performance

### 5.6.1 HDD

Test environment:

OS Windows 7

Program (HD Tune)

HDD Model	Interface	Capacity	Average	Burst Rate	Access Time
Seagate ST3160815AS	SATA	160 GB	49.7 MB/sec	56.9 MB/sec	15.9 ms
Western Digital WD2500AAKS-00VYA0	SATA	250 GB	62 MB/sec	89.7 MB/sec	12.7 ms
Western Digital WD3200BEKT-00F3T0	SATA	320 GB	64.2 MB/sec	137.9 MB/sec	14.9 ms
Western Digital WD5000BPKT-00PK4T0	SATA	500 GB	89.8 MB/sec	144 MB/sec	18.8 ms
Western Digital WD10EALX-009BA0	SATA	1.0 TB	100.7 MB/sec	199.9 MB/sec	16.9 ms

HDD Model	Interface	Capacity	Average	Burst Rate	Access Time
MemoRight MRS AJ6C064GC125C00	SSD	64 GB	151.3 MB/sec	55.5 MB/sec	0.2 ms
INTEL SSDSC2BB120G4	SSD	120 GB	281.8 MB/sec	44.6 MB/sec	0.1 ms
INTEL SSDSC2BW240A4	SSD	240 GB	337.6 MB/sec	228.8 MB/sec	0.1 ms
KINGSTON DT HyperX 3.0	USB	64 GB	251 MB/sec	105.6 MB/sec	0.4 ms
TOSHIBA TransMemory-Ex2	USB	64 GB	184.2 MB/sec	31.6 MB/sec	0.8 ms
Silicon-Power	USB	4 GB	1.1 MB/sec	1.1 MB/sec	2.9 ms

## 5.6.2 DVD-ROM

Test environment:

OS Windows 7

Program (NERO)

DVD-ROM Model	Interface	Average Speed	Full Read	Burst Rate	DVD
ASUS DRW-24D1ST	SATA	8.14 x	196 ms	44 MB/s	16 x
PIONEER DVR-S19LBK	SATA	11.02 x	194 ms	41 MB/s	16 x
LITE-ON iHES312	SATA	10.82 x	164 ms	40 MB/s	16 x
PIONEER DVR-XD11T	USB	5.56 x	193 ms	22 MB/s	16 x
LITEON DVD eTAU108	USB	5.53 x	211 ms	20 MB/s	16 x