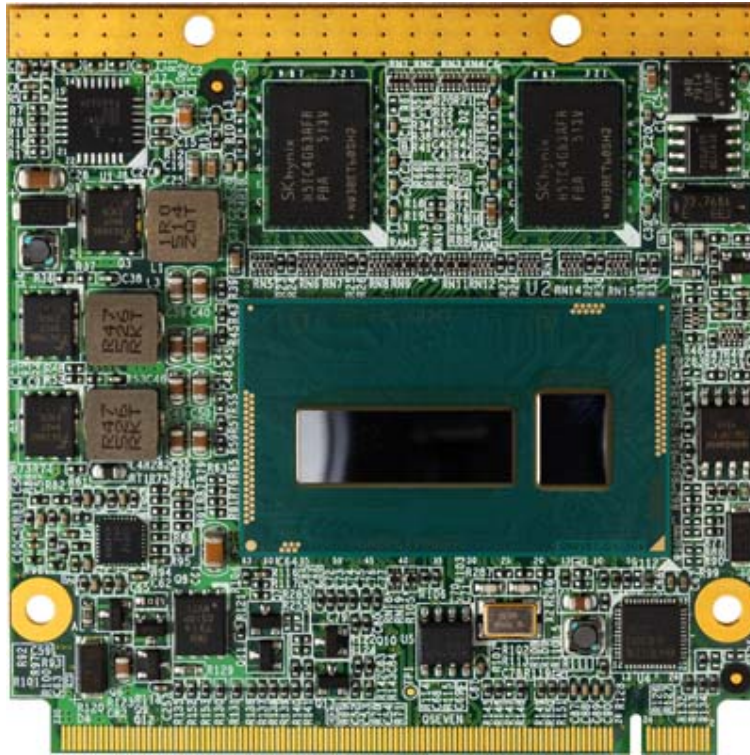


# Product Test Report



|                         |                   |
|-------------------------|-------------------|
| <b>Product Name</b>     | <b>QE-E71</b>     |
| <b>Product Version</b>  | <b>A</b>          |
| <b>Issued Date</b>      | <b>2016.03.01</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>Jerry</b>      |

| <b>REVISION HISTORY</b> |                     |             |                        |
|-------------------------|---------------------|-------------|------------------------|
| <b>DATE</b>             | <b>REVISION NO.</b> | <b>PAGE</b> | <b>DESCRIPTONS</b>     |
| <b>2016.03.01</b>       | <b>Ver. 1.0</b>     | <b>46</b>   | <b>Initial Release</b> |

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# 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    | DC_IN                            | PASS   |
| 6    | DC_2P                            | PASS   |
| 7    | ATX                              | PASS   |
| 8    | CPU FAN                          | PASS   |
| 9    | SYS FAN                          | PASS   |
| 10   | CN_USB 2.0 1 / 2                 | PASS   |
| 11   | SATA 1 / 2                       | PASS   |
| 12   | MXM                              | PASS   |
| 13   | CN_AUDIO                         | PASS   |
| 14   | CN_PS2                           | PASS   |
| 15   | COM 1 / CN_COM 2 / 3 / 4 / 5 / 6 | PASS   |
| 16   | LAN 2/3                          | PASS   |
| 17   | USB 2.0 /3.0                     | PASS   |
| 18   | Display port                     | PASS   |
| 19   | DVI                              | PASS   |
| 20   | CN_LVDS 1                        | PASS   |
| 21   | CN_INV 1                         | PASS   |
| 22   | MINI_PCIE 1 / 2                  | PASS   |

## Jumper

| Item | Description | Result |
|------|-------------|--------|
| 1    | JRTC        | PASS   |
| 2    | JAT         | PASS   |
| 3    | JVLCD       | PASS   |
| 4    | JMSATA      | PASS   |
| 5    | JCSEL1      | PASS   |
| 6    | JCSEL2      | PASS   |

## 1.2 BIOS function

| Item | Description                      | Result | Remark |
|------|----------------------------------|--------|--------|
| 1    | Press 'Del' to run Setup Utility | PASS   |        |
| 2    | Ctrl-Alt-Del – Soft-Reboot       | PASS   |        |
| 3    | Date & Time Setting              | PASS   |        |
| 4    | NumLock                          | PASS   |        |
| 5    | Quick Boot                       | PASS   |        |
| 6    | Diagnostic Splash Screen         | PASS   |        |
| 7    | Diagnostic Summary Screen        | PASS   |        |
| 8    | Select Language                  | PASS   |        |
| 9    | Power Loss                       | PASS   |        |
| 10   | SATA Device                      | PASS   |        |
| 11   | SB Azalia Config                 | PASS   |        |
| 12   | USB Per-Port Disable Control     | PASS   |        |
| 13   | Shut Down Feature                | PASS   |        |
| 14   | Smart Fan Control                | PASS   |        |
| 15   | Serial Port                      | PASS   |        |
| 16   | Watch Dog Timer Select           | PASS   |        |

|    |                                  |      |  |
|----|----------------------------------|------|--|
| 17 | Power On By RTC Alarm            | PASS |  |
| 18 | Set Supervisor Password          | PASS |  |
| 19 | Set User Password                | PASS |  |
| 20 | Exit Saving Changes              | PASS |  |
| 21 | VCORE, 3.3V, 5V, 5VSB, 12V, VBAT | PASS |  |

### 1.3 Driver

#### CD Edition : DIPCi1-1.2

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

| Item | Description    | Result | Version       |
|------|----------------|--------|---------------|
| 1    | Chipset Driver | PASS   | 10.0          |
| 2    | Graphic Driver | PASS   | 10.18.14.4170 |
| 3    | LAN Driver     | PASS   | 12.11.97.1    |
| 4    | Audio Driver   | PASS   | 6.0.1.7240    |

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

| Item | Description    | Result | Version       |
|------|----------------|--------|---------------|
| 1    | Chipset Driver | PASS   | 10.0          |
| 2    | Graphic Driver | PASS   | 10.18.14.4170 |
| 3    | LAN Driver     | PASS   | 12.11.97.1    |
| 4    | Audio Driver   | PASS   | 6.0.1.7240    |

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

| Item | Description       | Result | Version       |
|------|-------------------|--------|---------------|
| 1    | Chipset Driver    | PASS   | 10.0          |
| 2    | Graphic Driver    | PASS   | 10.18.14.4170 |
| 3    | LAN Driver (I210) | PASS   | 12.11.97.0    |
| 4    | Audio Driver      | PASS   | 6.0.1.6662    |

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

| Item | Description       | Result | Version       |
|------|-------------------|--------|---------------|
| 1    | Chipset Driver    | PASS   | 10.0          |
| 2    | Graphic Driver    | PASS   | 10.18.14.4170 |
| 3    | LAN Driver (I210) | PASS   | 12.11.97.0    |
| 4    | Audio Driver      | PASS   | 6.0.1..6873   |

### 5. Windows server 2008 R2 64-bit Driver Test

| Item | Description       | Result | Version       |
|------|-------------------|--------|---------------|
| 1    | Chipset Driver    | PASS   | 10.0          |
| 2    | Graphic Driver    | PASS   | 10.18.14.4170 |
| 3    | LAN Driver (I210) | PASS   | 12.11.97.0    |
| 4    | Audio Driver      | PASS   | 6.0.1..6873   |



## 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="#">SR267</a> | 2.20 GHz  | Core   | i7-5650U  | 15 W    | 4 MB        | PASS   |
| <a href="#">SR268</a> | 1.80 GHz  | Core   | i5-5350U  | 15 W    | 3 MB        | PASS   |
| <a href="#">SR23Z</a> | 2.10 GHz  | Core   | i3-5010U  | 15 W    | 3 MB        | PASS   |

### 2.2 Operation System Test

| Item | Description                   | Result | Remark |
|------|-------------------------------|--------|--------|
| 1    | Windows 8.1 32/64-bit         | PASS   |        |
| 2    | Windows 7 32/64-bit           | PASS   |        |
| 3    | Windows server 2008 R2 64-bit | PASS   |        |

### 2.3 Memory Test

Test environment:

OS Windows 7

Test program : PC MARK 2005

| Manufacturer | Chip                       | Frequency  | Capacity Mbytes | Result |
|--------------|----------------------------|------------|-----------------|--------|
| Atla         | SKhynix<br>H5TC4G63AFR-PBA | DDR3L 1600 | 2 GB            | PASS   |

|     |                                     |            |     |      |
|-----|-------------------------------------|------------|-----|------|
| I'M | I'M<br>IM8G16D3F<br>BBG-15E1 MU5019 | DDR3L 1600 | 4GB | PASS |
|-----|-------------------------------------|------------|-----|------|

## 2.4 Display port Graphic Quality Test

Test environment:

OS Windows 7 32 / 64-bit

Driver version : 10.18.14.4170

| 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*1345  | 16 / 32bit | PASS   |        |

|                  |                   |             |  |
|------------------|-------------------|-------------|--|
| <b>1856*1392</b> | <b>16 / 32bit</b> | <b>PASS</b> |  |
| <b>1920*1080</b> | <b>16 / 32bit</b> | <b>PASS</b> |  |
| <b>1920*1200</b> | <b>16 / 32bit</b> | <b>PASS</b> |  |

## 2.5 DVI Graphic Quality Test

Test environment:

OS Windows 7 32 / 64-bit

Driver version : 10.18.14.4170

| <b>Resolution</b> | <b>Color</b>      | <b>Result</b> | <b>Remark</b> |
|-------------------|-------------------|---------------|---------------|
| <b>800*600</b>    | <b>16 / 32bit</b> | <b>PASS</b>   |               |
| <b>1024*768</b>   | <b>16 / 32bit</b> | <b>PASS</b>   |               |
| <b>1152*864</b>   | <b>16 / 32bit</b> | <b>PASS</b>   |               |
| <b>1280*600</b>   | <b>16 / 32bit</b> | <b>PASS</b>   |               |
| <b>1280*720</b>   | <b>16 / 32bit</b> | <b>PASS</b>   |               |
| <b>1280*768</b>   | <b>16 / 32bit</b> | <b>PASS</b>   |               |
| <b>1280*800</b>   | <b>16 / 32bit</b> | <b>PASS</b>   |               |
| <b>1280*960</b>   | <b>16 / 32bit</b> | <b>PASS</b>   |               |
| <b>1280*1024</b>  | <b>16 / 32bit</b> | <b>PASS</b>   |               |
| <b>1360*768</b>   | <b>16 / 32bit</b> | <b>PASS</b>   |               |
| <b>1366*768</b>   | <b>16 / 32bit</b> | <b>PASS</b>   |               |
| <b>1400*1050</b>  | <b>16 / 32bit</b> | <b>PASS</b>   |               |
| <b>1440*900</b>   | <b>16 / 32bit</b> | <b>PASS</b>   |               |
| <b>1600*900</b>   | <b>16 / 32bit</b> | <b>PASS</b>   |               |
| <b>1680*1050</b>  | <b>16 / 32bit</b> | <b>PASS</b>   |               |
| <b>1920*1080</b>  | <b>16 / 32bit</b> | <b>PASS</b>   |               |

## 2.6 Audio

Test environment:

OS Windows 8.1 32 & 64-bit

Driver version : 6.0.1.7240

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

OS Windows 7 32-bit

Driver version : 6.0.1.6662

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

OS Windows 7 64-bit

Driver version : 6.0.1.6873

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

OS Windows server 2008 R2 64-bit

Driver version : 6.0.1.6873

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

## 2.7 HDD Test

### Test environment: OS Windows 7

| Model                                 | Interface | Capacity | Size Detect | Data Transfer |
|---------------------------------------|-----------|----------|-------------|---------------|
| Western Digital<br>WD10EALX-009BA0    | SATA3     | 1.0 TB   | PASS        | PASS          |
| Western Digital<br>WD2500BPVT-22JJ5T0 | SATA2     | 250 GB   | PASS        | PASS          |
| Intel<br>SSDSC2BW240A4                | SSD       | 240 GB   | PASS        | PASS          |
| Kingston<br>SV300S37A                 | SSD       | 240 GB   | PASS        | PASS          |
| MemoRight<br>MRSAJ6C064GC125C00       | SSD       | 64 GB    | PASS        | PASS          |
| innodisk<br>DEMSR-32GD06SC2QC         | mSATA     | 32 GB    | PASS        | PASS          |

## 2.8 DVD-ROM Test

### Test environment: OS Windows 7

| Model               | Interface | Detect | Data Transfer | Play DVD |
|---------------------|-----------|--------|---------------|----------|
| ASUS<br>DRW-24D1ST  | SATA      | PASS   | PASS          | PASS     |
| LITE-ON<br>iHES312  | SATA      | PASS   | PASS          | PASS     |
| PIONEER<br>DVRXD11T | USB       | PASS   | PASS          | PASS     |
| LITEON<br>eTAU108   | USB       | PASS   | PASS          | PASS     |

## 2.9 USB device Test

### 1. Windows server 2008 R2 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   |        |

### 2. Windows 7 32& 64-bit

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

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

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

## 2.10 Serial Port Test

### 1. Windows server 2008 R2 64-bit

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

### 2. Windows 7 32&64-bit

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

### 3. Windows 8 32&64-bit

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

### 4. Windows 8.1 32&64-bit

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

## 2.11 PS/2 Keyboard & Mouse Test

### 1. Windows server 2008 R2 64-bit

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

### 2. Windows 7 32&64-bit

| Item | Description4             | Result | Remark |
|------|--------------------------|--------|--------|
| 1    | Keyboard LED Status Test | PASS   |        |
| 2    | Keyboard Typing Test     | PASS   |        |
| 3    | Mouse Detect Test        | PASS   |        |

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

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

## 2.12 LAN Test

**Data Transfer Test environment:**

**-CAT 6 UTP 100M**

**-10 HR. continuous**

**1. Windows server 2008 R2 64-bit**

**32/64-bit driver version : 12.11.97.0**



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

## 2. Windows 7 32 & 64-bit

32/64-bit driver version : 12.11.97.0

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

## 3. Windows 8.1 32& 64-bit

32/64-bit driver version : 12.11.97.0

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

## 2.13 PCI Express mini card

| Motherboard     | PCI Express mini card | Remark      |
|-----------------|-----------------------|-------------|
| QE-E71 + LE-5Q0 | MPX-210D              | PASS        |
|                 | MPX-210D2             | NO SUPPLY   |
|                 | MPX-885               | PASS        |
|                 | MPX-6864              | PASS        |
|                 | MPX-7202              | PASS        |
|                 | MPX-827               | ONLY CARD 1 |
|                 | MPX-954               | ONLY CARD 1 |
|                 | MPX-24794G2           | ONLY CARD 1 |
|                 | MPX-25858             | PASS        |

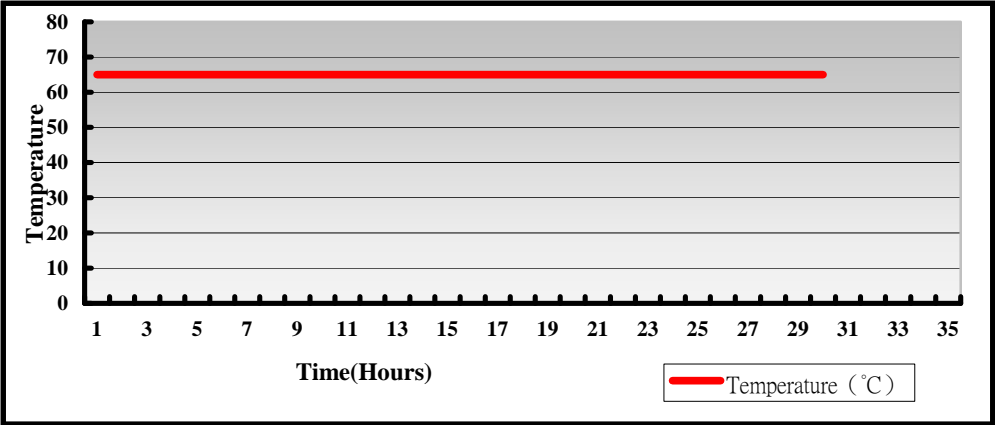
## 2.14 Power Supply Test

| Item | TYPE      | Description                        | Result | Remark |
|------|-----------|------------------------------------|--------|--------|
| 1    | ATX Power | Seasonic<br>SS-380HB 380W          | PASS   |        |
| 2    | ATX Power | AcBel<br>PC7008 430W               | PASS   |        |
| 3    | Adapter   | LI SHIN<br>0219B1280 12V 80W       | PASS   |        |
| 4    | Adapter   | EDAC<br>EA10951C-120 84W           | PASS   |        |
| 5    | Adapter   | FSP GROUP INC.<br>FSP-120-AAA 120W | PASS   |        |

### 3. Environmental test

#### 3.1 Temperature Test

|                |                                    |
|----------------|------------------------------------|
| System Board   | QE-E717-2G_A + LE-5Q0G2XD_A        |
| CPU            | Intel(R) Core(TM) i7-5650U 2.20GHz |
| Memory         | Onboard memory 2GB                 |
| HDD            | TOSHIBA DT01ACA200 2TB             |
| Operating OS   | Windows 7 sp1 32-bit               |
| Test Equipment | GIANT FORCE (GTH-150-60-CP-AR)     |
| Test Program   | 3DMark 2006 、PRIM95                |

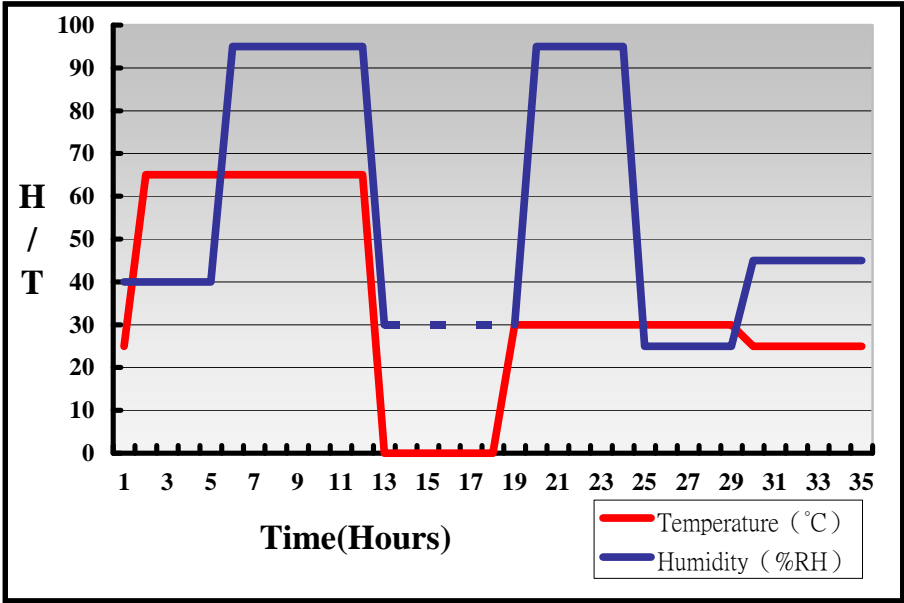


#### Boot Up Test:

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

**Hardware Device list:**

|                |                                    |
|----------------|------------------------------------|
| System Board   | QE-E717-2G_A + LE-5Q0G2XD_A        |
| CPU            | Intel(R) Core(TM) i7-5650U 2.20GHz |
| Memory         | Onboard memory 2GB                 |
| HDD            | TOSHIBA DT01ACA200 2TB             |
| Operating OS   | Windows 7 64-bit                   |
| Test Equipment | GIANT FORCE (GTH-150-60-CP-AR)     |
| Test Program   | 3DMark06+Prime95                   |



**Definition :** When the temperature is 30 degrees below arrive, humidity measurements have not, so by the dashed line express.

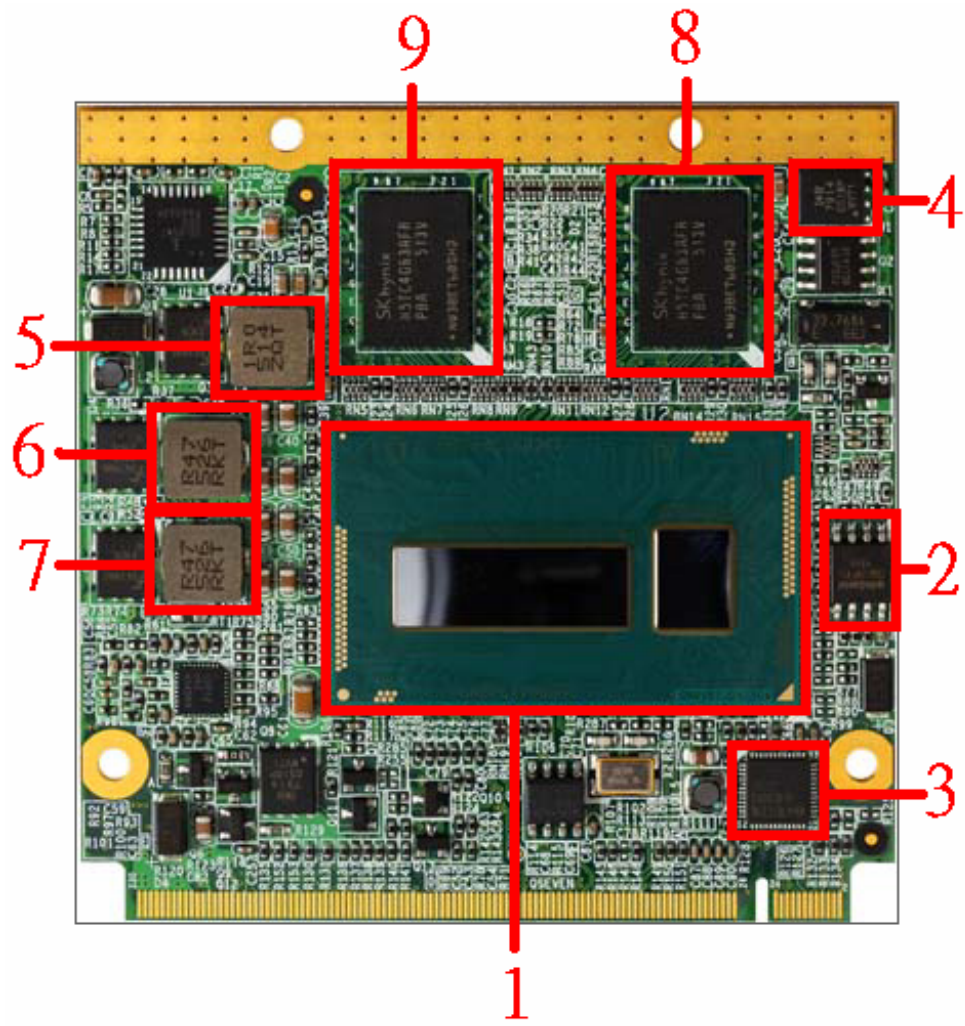
### 3.2 Thermal measurements at various points on the board

Test Environment :

|                         |   |
|-------------------------|---|
| <b>CPU</b>              | <b>Intel(R) Core(TM) i7-5650U 2.20GHz</b> |
| <b>Memory</b>           | <b>Onboard memory 2GB</b>                 |
| <b>HDD</b>              | <b>Intel SSDSC2BW240A4 240GB</b>          |
| <b>Power</b>            | <b>Seasonic SS-380HB</b>                  |
| <b>Operating System</b> | <b>Windows 7 sp1 64bit</b>                |
| <b>Test Program</b>     | <b>BurnIn 7, PRIME95</b>                  |

Test Result:

| <b>Item</b> | <b>Environmental temperature</b> | <b>26.2°C</b> |
|-------------|----------------------------------|---------------|
| <b>1</b>    | <b>CPU(U2)</b>                   | <b>34.1°C</b> |
| <b>2</b>    | <b>Spi (ICW25Q64CVSSIG)</b>      | <b>32.1°C</b> |
| <b>3</b>    | <b>U4 (ICI218-LM)</b>            | <b>30.1°C</b> |
| <b>4</b>    | <b>Q1 (TMS2N7002_NL)</b>         | <b>33°C</b>   |
| <b>5</b>    | <b>L1 (LLC1.0UH/063T)</b>        | <b>30.3°C</b> |
| <b>6</b>    | <b>L3 (LLC0.47UH/063T)</b>       | <b>33.3°C</b> |
| <b>7</b>    | <b>L4 (LLC0.47UH/063T)</b>       | <b>33°C</b>   |
| <b>8</b>    | <b>RAM2 (M41K512M16)</b>         | <b>31.2°C</b> |
| <b>9</b>    | <b>RAM3 (M41K512M16)</b>         | <b>32.7°C</b> |



## 4. Reliability Test

### 4.1 Power Consumption Test

#### 1. Test Environment:

|             |                                    |
|-------------|------------------------------------|
| Motherboard | QE-E717-2G_A + LE-5Q0G2XD_A        |
| CPU         | Intel(R) Core(TM) i7-5650U 2.20GHz |
| Memory      | Onboard memory 2GB                 |
| HDD         | Intel SSDSC2BW240A4 240GB          |

Power Supply : Seasonic SS-380HB

| Voltage | MS-DOS<br>Boot up |             | Win7 64Bit<br>3DMark2006+Prime95-255a |             |
|---------|-------------------|-------------|---------------------------------------|-------------|
|         | Current ( A )     | Power ( W ) | Current ( A )                         | Power ( W ) |
| 12V     | 0.92              | 11.04       | 1.15                                  | 13.8        |
| 5V      | 1.5               | 7.5         | 1.64                                  | 8.2         |
| 3.3V    | 0.131             | 0.4323      | 0                                     | 0           |
| 5VSB    | 0.275             | 0.835       | 0.015                                 | 0.075       |

The same as above but with LCD panel

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

Power Supply : Seasonic SS-380HB

| Voltage | MS-DOS<br>Boot up |             | Win7 64Bit<br>3DMark2006+Prime95-255a |             |
|---------|-------------------|-------------|---------------------------------------|-------------|
|         | Current ( A )     | Power ( W ) | Current ( A )                         | Power ( W ) |
| 12V     | 2.95              | 35.4        | 3.29                                  | 39.48       |
| 5V      | 1.54              | 7.7         | 1.6                                   | 8           |
| 3.3V    | 0.133             | 0.4389      | 0.002                                 | 0.0066      |
| 5VSB    | 0.182             | 0.91        | 0.009                                 | 0.045       |

## 2.Test Environment:

|             |                                    |
|-------------|------------------------------------|
| Motherboard | QE-E717-2G_A + LE-5Q0G2XD_A        |
| CPU         | Intel(R) Core(TM) i7-5650U 2.20GHz |
| Memory      | Onboard memory 2GB                 |
| HDD         | Intel SSDSC2BW240A4 240GB          |

12V Power Supply : EDAC EA10951C-120

19V Power Supply : FSP GROUP INC. FSP-120-AAA

| Voltage | MS-DOS<br>Boot up |             | Win7 64Bit<br>3DMark2006+Prime95-255a |             |
|---------|-------------------|-------------|---------------------------------------|-------------|
|         | Current ( A )     | Power ( W ) | Current ( A )                         | Power ( W ) |
| 12V     | 1.36              | 16.32       | 1.97                                  | 23.64       |
| 19V     | 0.86              | 16.34       | 1.15                                  | 21.85       |

The same as above but with LCD panel

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

12V Power Supply : EDAC EA10951C-120

19V Power Supply : FSP GROUP INC. FSP-120-AAA

| Voltage | MS-DOS<br>Boot up |             | Win7 64Bit<br>3DMark2006+Prime95-255a |             |
|---------|-------------------|-------------|---------------------------------------|-------------|
|         | Current ( A )     | Power ( W ) | Current ( A )                         | Power ( W ) |
| 12V     | 3.17              | 38.04       | 3.75                                  | 45          |
| 19V     | 1.98              | 37.62       | 2.39                                  | 45.41       |



### 3.Test Environment:

|             |                                    |
|-------------|------------------------------------|
| Motherboard | QE-E715-2G_A + LE-5Q0G2XD_A        |
| CPU         | Intel(R) Core(TM) i5-5350U 1.80GHz |
| Memory      | Onboard memory 2GB                 |
| HDD         | Intel SSDSC2BW240A4 240GB          |

Power Supply : Seasonic SS-380HB

| Voltage | MS-DOS<br>Boot up |             | Win7 64Bit<br>3DMark2006+Prime95-255a |             |
|---------|-------------------|-------------|---------------------------------------|-------------|
|         | Current ( A )     | Power ( W ) | Current ( A )                         | Power ( W ) |
| 12V     | 0.825             | 9.9         | 1.13                                  | 13.56       |
| 5V      | 1.55              | 7.75        | 1.71                                  | 5.85        |
| 3.3V    | 0.13              | 0.429       | 0.007                                 | 0.0231      |
| 5VSB    | 0.326             | 1.63        | 0.003                                 | 0.015       |

The same as above but with LCD panel

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

Power Supply : Seasonic SS-380HB

| Voltage | MS-DOS<br>Boot up |             | Win7 64Bit<br>3DMark2006+Prime95-255a |             |
|---------|-------------------|-------------|---------------------------------------|-------------|
|         | Current ( A )     | Power ( W ) | Current ( A )                         | Power ( W ) |
| 12V     | 2.73              | 32.76       | 2.88                                  | 34.56       |
| 5V      | 1.28              | 6.4         | 1.45                                  | 7.25        |
| 3.3V    | 0.132             | 0.4356      | 0.006                                 | 0.0198      |
| 5VSB    | 0.263             | 1.315       | 0.006                                 | 0.03        |

#### 4.Test Environment:

|             |                                    |
|-------------|------------------------------------|
| Motherboard | QE-E715-2G_A + LE-5Q0G2XD_A        |
| CPU         | Intel(R) Core(TM) i5-5350U 1.80GHz |
| Memory      | Onboard memory 2GB                 |
| HDD         | Intel SSDSC2BW240A4 240GB          |

12V Power Supply : EDAC EA10951C-120

19V Power Supply : FSP GROUP INC. FSP-120-AAA

| Voltage | MS-DOS<br>Boot up |             | Win7 64Bit<br>3DMark2006+Prime95-255a |             |
|---------|-------------------|-------------|---------------------------------------|-------------|
|         | Current ( A )     | Power ( W ) | Current ( A )                         | Power ( W ) |
| 12V     | 1.16              | 13.92       | 1.93                                  | 23.16       |
| 19V     | 0.81              | 15.39       | 1.18                                  | 22.42       |

The same as above but with LCD panel

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

12V Power Supply : EDAC EA10951C-120

19V Power Supply : FSP GROUP INC. FSP-120-AAA

| Voltage | MS-DOS<br>Boot up |             | Win7 64Bit<br>3DMark2006+Prime95-255a |             |
|---------|-------------------|-------------|---------------------------------------|-------------|
|         | Current ( A )     | Power ( W ) | Current ( A )                         | Power ( W ) |
| 12V     | 3.12              | 37.44       | 3.67                                  | 44.04       |
| 19V     | 1.86              | 35.34       | 2.35                                  | 44.65       |

### 5.Test Environment:

|             |                                    |
|-------------|------------------------------------|
| Motherboard | QE-E713-2G_A + LE-5Q0G2XD_A        |
| CPU         | Intel(R) Core(TM) i3-5010U 2.10GHz |
| Memory      | Onboard memory 2GB                 |
| HDD         | Intel SSDSC2BW240A4 240GB          |

Power Supply : Seasonic SS-380HB

| Voltage | MS-DOS<br>Boot up |             | Win7 64Bit<br>3DMark2006+Prime95-255a |             |
|---------|-------------------|-------------|---------------------------------------|-------------|
|         | Current ( A )     | Power ( W ) | Current ( A )                         | Power ( W ) |
| 12V     | 0.82              | 9.84        | 1.16                                  | 13.92       |
| 5V      | 1.48              | 7.4         | 1.38                                  | 6.9         |
| 3.3V    | 0.13              | 0.429       | 0.006                                 | 0.0198      |
| 5VSB    | 0.277             | 1.385       | 0.007                                 | 0.035       |

The same as above but with LCD panel

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

Power Supply : Seasonic SS-380HB

| Voltage | MS-DOS<br>Boot up |             | Win7 64Bit<br>3DMark2006+Prime95-255a |             |
|---------|-------------------|-------------|---------------------------------------|-------------|
|         | Current ( A )     | Power ( W ) | Current ( A )                         | Power ( W ) |
| 12V     | 2.63              | 31.56       | 2.77                                  | 33.24       |
| 5V      | 1.39              | 6.95        | 1.48                                  | 7.4         |
| 3.3V    | 0.13              | 0.429       | 0.005                                 | 0.0165      |
| 5VSB    | 0.427             | 2.135       | 0.008                                 | 0.04        |

## 6.Test Environment:

|             |                                    |
|-------------|------------------------------------|
| Motherboard | QE-E713-2G_A + LE-5Q0G2XD_A        |
| CPU         | Intel(R) Core(TM) i3-5010U 2.10GHz |
| Memory      | Onboard memory 2GB                 |
| HDD         | Intel SSDSC2BW240A4 240GB          |

12V Power Supply : EDAC EA10951C-120

19V Power Supply : FSP GROUP INC. FSP-120-AAA

| Voltage | MS-DOS<br>Boot up |             | Win7 64Bit<br>3DMark2006+Prime95-255a |             |
|---------|-------------------|-------------|---------------------------------------|-------------|
|         | Current ( A )     | Power ( W ) | Current ( A )                         | Power ( W ) |
| 12V     | 1.17              | 14.04       | 1.88                                  | 22.56       |
| 19V     | 0.75              | 14.25       | 1.17                                  | 22.23       |

The same as above but with LCD panel

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

12V Power Supply : EDAC EA10951C-120

19V Power Supply : FSP GROUP INC. FSP-120-AAA

| Voltage | MS-DOS<br>Boot up |             | Win7 64Bit<br>3DMark2006+Prime95-255a |             |
|---------|-------------------|-------------|---------------------------------------|-------------|
|         | Current ( A )     | Power ( W ) | Current ( A )                         | Power ( W ) |
| 12V     | 2.99              | 35.88       | 3.69                                  | 44.28       |
| 19V     | 2                 | 38          | 2.32                                  | 44.08       |

## 5. Performance Test

### 5.1 3D MARK(2003、2005)

Windows 7 32-bit

| Weighted Suite   | Test Environment   | Result | Remark |
|------------------|--|--------|--------|
| 3DMARK2003 SCORE | Intel(R) Core(TM)<br>i3-5010U 2.10GHz<br>Atla DDR3L 1600 2GB | PASS   | 10567  |
| 3DMARK2005 SCORE | (SKhynix H5TC4G63AFR-PBA)<br>Intel SSDSC2BW240A4 240GB       | PASS   | 7198   |

Windows 7 64-bit

| Weighted Suite   | Test Environment   | Result | Remark |
|------------------|--|--------|--------|
| 3DMARK2003 SCORE | Intel(R) Core(TM)<br>i3-5010U 2.10GHz<br>Atla DDR3L 1600 2GB | PASS   | 10592  |
| 3DMARK2005 SCORE | (SKhynix H5TC4G63AFR-PBA)<br>Intel SSDSC2BW240A4 240GB       | PASS   | 7241   |

Windows 7 32-bit

| Weighted Suite   | Test Environment   | Result | Remark |
|------------------|--|--------|--------|
| 3DMARK2003 SCORE | Intel(R) Core(TM)<br>i5-5350U 1.80GHz<br>Atla DDR3L 1600 2GB | PASS   | 10640  |
| 3DMARK2005 SCORE | (SKhynix H5TC4G63AFR-PBA)<br>Intel SSDSC2BW240A4 240GB       | PASS   | 6293   |

**Windows 7 64-bit**

| Weighted Suite   | Test Environment   | Result | Remark |
|------------------|--|--------|--------|
| 3DMARK2003 SCORE | Intel(R) Core(TM)<br>i5-5350U 1.80GHz<br>Atla DDR3L 1600 2GB | PASS   | 6346   |
| 3DMARK2005 SCORE | (SKhynix H5TC4G63AFR-PBA)<br>Intel SSDSC2BW240A4 240GB       | PASS   | 6396   |

**Windows 7 32-bit**

| Weighted Suite   | Test Environment   | Result | Remark |
|------------------|--|--------|--------|
| 3DMARK2003 SCORE | Intel(R) Core(TM)<br>i7-5650U 2.20GHz<br>Atla DDR3L 1600 2GB | PASS   | 9331   |
| 3DMARK2005 SCORE | (SKhynix H5TC4G63AFR-PBA)<br>Intel SSDSC2BW240A4 240GB       | PASS   | 6365   |

**Windows 7 64-bit**

| Weighted Suite   | Test Environment   | Result | Remark |
|------------------|--|--------|--------|
| 3DMARK2003 SCORE | Intel(R) Core(TM)<br>i7-5650U 2.20GHz<br>Atla DDR3L 1600 2GB | PASS   | 9444   |
| 3DMARK2005 SCORE | (SKhynix H5TC4G63AFR-PBA)<br>Intel SSDSC2BW240A4 240GB       | PASS   | 7241   |

**Windows 7 32-bit**

| Weighted Suite   | Test Environment  | Result | Remark |
|------------------|---|--------|--------|
| 3DMARK2003 SCORE | Intel(R) Core(TM)<br>i7-5650U 2.20GHz<br>I'M DDR3L 1600 4GB                     | PASS   | 8756   |
| 3DMARK2005 SCORE | (I'M IM8G16D3F<br>BBG-15E1 MU5019)<br>Westrn Digital<br>WD3000BEKT-00F3T0 320GB | PASS   | 5871   |

**5.2 3D MARK2006****Windows 7 32-bit**

| Item | Weighted Suite  | Test Environment   | Result | Remark |
|------|-----------------|--|--------|--------|
| 1    | 3DMARK SCORE    | Intel(R) Core(TM)<br>i3-5010U 2.10GHz<br>Atla DDR3L 1600 2GB<br>(SKhynix H5TC4G63AFR-PBA)<br>Intel SSDSC2BW240A4 240GB | PASS   | 4740   |
| 2    | SM2.0 SCORE     |  | PASS   | 1596   |
| 3    | HDR/SM3.0 SCORE |  | PASS   | 2033   |
| 4    | CPU SCORE       |  | PASS   | 2538   |

**Windows 7 64-bit**

| Item | Weighted Suite | Test Environment                      | Result | Remark |
|------|----------------|---------------------------------------|--------|--------|
| 1    | 3DMARK SCORE   | Intel(R) Core(TM)<br>i3-5010U 2.10GHz | PASS   | 4757   |

|   |                 |   |      |      |
|---|-----------------|---|------|------|
| 2 | SM2.0 SCORE     | Atla DDR3L 1600 2GB<br>(SKhynix H5TC4G63AFR-PBA)<br>Intel SSDSC2BW240A4 240GB | PASS | 1621 |
| 3 | HDR/SM3.0 SCORE |   | PASS | 2015 |
| 4 | CPU SCORE       |   | PASS | 2582 |

**Windows 7 32-bit**

| Item | Weighted Suite  | Test Environment   | Result | Remark |
|------|-----------------|--|--------|--------|
| 1    | 3DMARK SCORE    | Intel(R) Core(TM)<br>i5-5350U 1.80GHz<br>Atla DDR3L 1600 2GB<br>(SKhynix H5TC4G63AFR-PBA)<br>Intel SSDSC2BW240A4 240GB | PASS   | 4990   |
| 2    | SM2.0 SCORE     |  | PASS   | 1545   |
| 3    | HDR/SM3.0 SCORE |  | PASS   | 1865   |
| 4    | CPU SCORE       |  | PASS   | 2578   |

**Windows 7 64-bit**

| Item | Weighted Suite | Test Environment   | Result | Remark |
|------|----------------|--|--------|--------|
| 1    | 3DMARK SCORE   | Intel(R) Core(TM)<br>i5-5350U 1.80GHz<br>Atla DDR3L 1600 2GB<br>(SKhynix H5TC4G63AFR-PBA)<br>Intel SSDSC2BW240A4 240GB | PASS   | 4540   |
| 2    | SM2.0 SCORE    |  | PASS   | 1559   |



|   |                 |  |      |      |
|---|-----------------|--|------|------|
| 3 | HDR/SM3.0 SCORE |  | PASS | 1890 |
| 4 | CPU SCORE       |  | PASS | 2602 |

**Windows 7 32-bit**

| Item | Weighted Suite  | Test Environment  | Result | Remark |
|------|-----------------|---|--------|--------|
| 1    | 3DMARK SCORE    | <b>Intel(R) Core(TM)<br/>i7-5650U 2.20GHz<br/>Atla DDR3L 1600 2GB<br/>(SKhynix H5TC4G63AFR-PBA)<br/>Intel SSDSC2BW240A4 240GB</b> | PASS   | 4173   |
| 2    | SM2.0 SCORE     |   | PASS   | 1407   |
| 3    | HDR/SM3.0 SCORE |   | PASS   | 1741   |
| 4    | CPU SCORE       |   | PASS   | 2541   |

**Windows 7 64-bit**

| Item | Weighted Suite  | Test Environment  | Result | Remark |
|------|-----------------|---|--------|--------|
| 1    | 3DMARK SCORE    | <b>Intel(R) Core(TM)<br/>i7-5650U 2.20GHz<br/>Atla DDR3L 1600 2GB<br/>(SKhynix H5TC4G63AFR-PBA)<br/>Intel SSDSC2BW240A4 240GB</b> | PASS   | 4171   |
| 2    | SM2.0 SCORE     |   | PASS   | 1402   |
| 3    | HDR/SM3.0 SCORE |   | PASS   | 1743   |

|   |           |  |      |      |
|---|-----------|--|------|------|
| 4 | CPU SCORE |  | PASS | 2546 |
|---|-----------|--|------|------|

#### Windows 7 32-bit

| Item | Weighted Suite  | Test Environment   | Result | Remark |
|------|-----------------|--|--------|--------|
| 1    | 3DMARK SCORE    | <b>Intel(R) Core(TM)<br/>i7-5650U 2.20GHz<br/>I'M DDR3L 1600 4GB<br/>(I'M IM8G16D3F<br/>BBG-15E1 MU5019)<br/>Westren Digital<br/>WD3000BEKT-00F3T0 320GB</b> | PASS   | 3307   |
| 2    | SM2.0 SCORE     |  | PASS   | 1106   |
| 3    | HDR/SM3.0 SCORE |  | PASS   | 1271   |
| 4    | CPU SCORE       |  | PASS   | 2568   |

### 5.3 3D MARK VANTAGE

#### Windows 7 32-bit

| Item | Weighted Suite | Test Environment  | Result | Remark |
|------|----------------|---|--------|--------|
| 1    | 3DMARK SCORE   | <b>Intel(R) Core(TM)<br/>i3-5010U 2.10GHz<br/>Atla DDR3L 1600 2GB<br/>(SKhynix H5TC4G63AFR-PBA)<br/>Intel SSDSC2BW240A4 240GB</b> | PASS   | P2943  |
| 2    | GPU SCORE      |   | PASS   | 2461   |
| 3    | CPU SCORE      |   | PASS   | 7130   |

**Windows 7 64-bit**

| Item | Weighted Suite | Test Environment   | Result | Remark |
|------|----------------|--|--------|--------|
| 1    | 3DMARK SCORE   | Intel(R) Core(TM)<br>i3-5010U 2.10GHz<br>Atla DDR3L 1600 2GB<br>(SKhynix H5TC4G63AFR-PBA)<br>Intel SSDSC2BW240A4 240GB | PASS   | P2987  |
| 2    | GPU SCORE      |  | PASS   | 2508   |
| 3    | CPU SCORE      |  | PASS   | 7011   |

**Windows 7 32-bit**

| Item | Weighted Suite | Test Environment   | Result | Remark |
|------|----------------|--|--------|--------|
| 1    | 3DMARK SCORE   | Intel(R) Core(TM)<br>i5-5350U 1.80GHz<br>Atla DDR3L 1600 2GB<br>(SKhynix H5TC4G63AFR-PBA)<br>Intel SSDSC2BW240A4 240GB | PASS   | P2921  |
| 2    | GPU SCORE      |  | PASS   | 2447   |
| 3    | CPU SCORE      |  | PASS   | 6951   |

**Windows 7 64-bit**

| Item | Weighted Suite | Test Environment   | Result | Remark |
|------|----------------|--|--------|--------|
| 1    | 3DMARK SCORE   | Intel(R) Core(TM)<br>i5-5350U 1.80GHz<br>Atla DDR3L 1600 2GB<br>(SKhynix H5TC4G63AFR-PBA)<br>Intel SSDSC2BW240A4 240GB | PASS   | P2910  |
| 2    | GPU SCORE      |  | PASS   | 2449   |
| 3    | CPU SCORE      |  | PASS   | 6696   |

**Windows 7 32-bit**

| Item | Weighted Suite | Test Environment   | Result | Remark |
|------|----------------|--|--------|--------|
| 1    | 3DMARK SCORE   | Intel(R) Core(TM)<br>i7-5650U 2.20GHz<br>Atla DDR3L 1600 2GB<br>(SKhynix H5TC4G63AFR-PBA)<br>Intel SSDSC2BW240A4 240GB | PASS   | P2540  |
| 2    | GPU SCORE      |  | PASS   | 2106   |
| 3    | CPU SCORE      |  | PASS   | 6664   |

**Windows 7 64-bit**

| Item | Weighted Suite | Test Environment   | Result | Remark |
|------|----------------|--|--------|--------|
| 1    | 3DMARK SCORE   | Intel(R) Core(TM)<br>i7-5650U 2.20GHz<br>Atla DDR3L 1600 2GB<br>(SKhynix H5TC4G63AFR-PBA)<br>Intel SSDSC2BW240A4 240GB | PASS   | P2578  |
| 2    | GPU SCORE      |  | PASS   | 2141   |
| 3    | CPU SCORE      |  | PASS   | 6647   |

**Windows 7 32-bit**

| Item | Weighted Suite | Test Environment  | Result | Remark |
|------|----------------|---|--------|--------|
| 1    | 3DMARK SCORE   | Intel(R) Core(TM)<br>i7-5650U 2.20GHz<br>I'M DDR3L 1600 4GB<br>(I'M IM8G16D3F<br>BBG-15E1 MU5019)<br>Westren Digital<br>WD3000BEKT-00F3T0 320GB | PASS   | P2508  |
| 2    | GPU SCORE      |   | PASS   | 2075   |
| 3    | CPU SCORE      |   | PASS   | 6722   |

## 5.4 PC MARK2002

| Test Environment   |
|--|
| Intel(R) Core(TM) i3-5010U 2.10GHz<br>Atla DDR3L 1600 2GB (SKhynix H5TC4G63AFR-PBA)<br>Intel SSDSC2BW240A4 240GB |

### Windows 7 32-bit

| Item | Weighted Suite | Result | Remark |
|------|----------------|--------|--------|
| 1    | CPU SCORE      | PASS   | N/A    |
| 2    | Memory SCORE   | PASS   | 34241  |
| 3    | HDD SCORE      | PASS   | 12630  |

### Windows 7 64-bit

| Item | Weighted Suite | Result | Remark |
|------|----------------|--------|--------|
| 1    | CPU SCORE      | PASS   | N/A    |
| 2    | Memory SCORE   | PASS   | 34364  |
| 3    | HDD SCORE      | PASS   | 11875  |

| Test Environment   |
|--|
| Intel(R) Core(TM) i5-5350U 1.80GHz<br>Atla DDR3L 1600 2GB (SKhynix H5TC4G63AFR-PBA)<br>Intel SSDSC2BW240A4 240GB |

### Windows 7 32-bit

| Item | Weighted Suite | Result | Remark |
|------|----------------|--------|--------|
| 1    | CPU SCORE      | PASS   | N/A    |
| 2    | Memory SCORE   | PASS   | 43145  |
| 3    | HDD SCORE      | PASS   | 12364  |

**Windows 7 64-bit**

| Item | Weighted Suite | Result | Remark |
|------|----------------|--------|--------|
| 1    | CPU SCORE      | PASS   | N/A    |
| 2    | Memory SCORE   | PASS   | 45650  |
| 3    | HDD SCORE      | PASS   | 11947  |

| Test Environment  |
|---|
| <p style="text-align: center;">Intel(R) Core(TM) i7-5650U 2.20GHz<br/> Atla DDR3L 1600 2GB (SKhynix H5TC4G63AFR-PBA)<br/> Intel SSDSC2BW240A4 240GB</p> |

**Windows 7 32-bit**

| Item | Weighted Suite | Result | Remark |
|------|----------------|--------|--------|
| 1    | CPU SCORE      | PASS   | N/A    |
| 2    | Memory SCORE   | PASS   | 52902  |
| 3    | HDD SCORE      | PASS   | 11461  |

**Windows 7 64-bit**

| Item | Weighted Suite | Result | Remark |
|------|----------------|--------|--------|
| 1    | CPU SCORE      | PASS   | N/A    |
| 2    | Memory SCORE   | PASS   | 45650  |
| 3    | HDD SCORE      | PASS   | 11947  |

| Test Environment   |
|--|
| <p style="text-align: center;">Intel(R) Core(TM) i7-5650U 2.20GHz<br/> I'M DDR3L 1600 4GB<br/> (I'M IM8G16D3F BBG-15E1 MU5019)<br/> Westrern Digital WD3000BEKT-00F3T0 320GB</p> |

**Windows 7 32-bit**

| Item | Weighted Suite | Result | Remark |
|------|----------------|--------|--------|
| 1    | CPU SCORE      | PASS   | N/A    |
| 2    | Memory SCORE   | PASS   | 52359  |
| 3    | HDD SCORE      | PASS   | 2631   |

**5.5 PC MARK2004**

|   |
|---|
| <b>Test Environment</b>   |
| <b>Intel(R) Core(TM) i3-5010U 2.10GHz</b><br><b>Atla DDR3L 1600 2GB (SKhynix H5TC4G63AFR-PBA)</b><br><b>Intel SSDSC2BW240A4 240GB</b> |

**Windows 7 32-bit**

| Item | Weighted Suite | Result | Remark |
|------|----------------|--------|--------|
| 1    | PCMark SCORE   | PASS   | N/A    |
| 2    | CPU SCORE      | PASS   | 8656   |
| 3    | Memory SCORE   | PASS   | 8194   |
| 4    | Graphic SCORE  | PASS   | 8120   |
| 5    | HDD SCORE      | PASS   | N/A    |

**Windows 7 64-bit**

| Item | Weighted Suite | Result | Remark |
|------|----------------|--------|--------|
| 1    | PCMark SCORE   | PASS   | N/A    |
| 2    | CPU SCORE      | PASS   | 8656   |
| 3    | Memory SCORE   | PASS   | 8143   |
| 4    | Graphic SCORE  | PASS   | 8326   |
| 5    | HDD SCORE      | PASS   | N/A    |

|   |
|---|
| <b>Test Environment</b>   |
| <b>Intel(R) Core(TM) i5-5350U 1.80GHz</b><br><b>Atla DDR3L 1600 2GB (SKhynix H5TC4G63AFR-PBA)</b><br><b>Intel SSDSC2BW240A4 240GB</b> |

**Windows 7 32-bit**

| <b>Item</b> | <b>Weighted Suite</b> | <b>Result</b> | <b>Remark</b> |
|-------------|-----------------------|---------------|---------------|
| 1           | PCMark SCORE          | PASS          | N/A           |
| 2           | CPU SCORE             | PASS          | N/A           |
| 3           | Memory SCORE          | PASS          | 9731          |
| 4           | Graphic SCORE         | PASS          | 7517          |
| 5           | HDD SCORE             | PASS          | N/A           |

**Windows 7 64-bit**

| <b>Item</b> | <b>Weighted Suite</b> | <b>Result</b> | <b>Remark</b> |
|-------------|-----------------------|---------------|---------------|
| 1           | PCMark SCORE          | PASS          | N/A           |
| 2           | CPU SCORE             | PASS          | N/A           |
| 3           | Memory SCORE          | PASS          | 9879          |
| 4           | Graphic SCORE         | PASS          | 7748          |
| 5           | HDD SCORE             | PASS          | N/A           |

|   |
|---|
| <b>Test Environment</b>   |
| <b>Intel(R) Core(TM) i7-5650U 2.20GHz</b><br><b>Atla DDR3L 1600 2GB (SKhynix H5TC4G63AFR-PBA)</b><br><b>Intel SSDSC2BW240A4 240GB</b> |



**Windows 7 32-bit**

| Item | Weighted Suite | Result | Remark |
|------|----------------|--------|--------|
| 1    | PCMark SCORE   | PASS   | N/A    |
| 2    | CPU SCORE      | PASS   | N/A    |
| 3    | Memory SCORE   | PASS   | 10962  |
| 4    | Graphic SCORE  | PASS   | 8007   |
| 5    | HDD SCORE      | PASS   | N/A    |

**Windows 7 64-bit**

| Item | Weighted Suite | Result | Remark |
|------|----------------|--------|--------|
| 1    | PCMark SCORE   | PASS   | N/A    |
| 2    | CPU SCORE      | PASS   | N/A    |
| 3    | Memory SCORE   | PASS   | 9879   |
| 4    | Graphic SCORE  | PASS   | 7748   |
| 5    | HDD SCORE      | PASS   | N/A    |

| Test Environment  |
|---|
| <p style="text-align: center;"> <b>Intel(R) Core(TM) i7-5650U 2.20GHz</b><br/> <b>I'M DDR3L 1600 4GB</b><br/> <b>(I'M IM8G16D3F BBG-15E1 MU5019)</b><br/> <b>Westren Digital WD3000BEKT-00F3T0 320GB</b> </p> |

**Windows 7 32-bit**

| Item | Weighted Suite | Result | Remark |
|------|----------------|--------|--------|
| 1    | PCMark SCORE   | PASS   | N/A    |
| 2    | CPU SCORE      | PASS   | N/A    |
| 3    | Memory SCORE   | PASS   | 10223  |
| 4    | Graphic SCORE  | PASS   | 7725   |

|   |           |      |     |
|---|-----------|------|-----|
| 5 | HDD SCORE | PASS | N/A |
|---|-----------|------|-----|

### 5.6 PC MARK2005

|   |
|---|
| <b>Test Environment</b>   |
| <b>Intel(R) Core(TM) i3-5010U 2.10GHz</b><br><b>Atla DDR3L 1600 2GB</b><br><b>(SKhynix H5TC4G63AFR-PBA)</b><br><b>Intel SSDSC2BW240A4 240GB</b> |

#### Windows 7 32-bit

| Item | Weighted Suite | Result | Remark |
|------|----------------|--------|--------|
| 1    | PCMark SCORE   | PASS   | N/A    |
| 2    | CPU SCORE      | PASS   | 7254   |
| 3    | Memory SCORE   | PASS   | 7927   |
| 4    | Graphic SCORE  | PASS   | N/A    |
| 5    | HDD SCORE      | PASS   | N/A    |

#### Windows 7 64-bit

| Item | Weighted Suite | Result | Remark |
|------|----------------|--------|--------|
| 1    | PCMark SCORE   | PASS   | N/A    |
| 2    | CPU SCORE      | PASS   | 7342   |
| 3    | Memory SCORE   | PASS   | 7842   |
| 4    | Graphic SCORE  | PASS   | N/A    |
| 5    | HDD SCORE      | PASS   | N/A    |

|   |
|---|
| <b>Test Environment</b>   |
| <b>Intel(R) Core(TM) i5-5350U 1.80GHz</b><br><b>Atla DDR3L 1600 2GB</b><br><b>(SKhynix H5TC4G63AFR-PBA)</b><br><b>Intel SSDSC2BW240A4 240GB</b> |

**Windows 7 32-bit**

| <b>Item</b> | <b>Weighted Suite</b> | <b>Result</b> | <b>Remark</b> |
|-------------|-----------------------|---------------|---------------|
| 1           | PCMark SCORE          | PASS          | N/A           |
| 2           | CPU SCORE             | PASS          | 7652          |
| 3           | Memory SCORE          | PASS          | 8812          |
| 4           | Graphic SCORE         | PASS          | N/A           |
| 5           | HDD SCORE             | PASS          | N/A           |

**Windows 7 64-bit**

| <b>Item</b> | <b>Weighted Suite</b> | <b>Result</b> | <b>Remark</b> |
|-------------|-----------------------|---------------|---------------|
| 1           | PCMark SCORE          | PASS          | N/A           |
| 2           | CPU SCORE             | PASS          | 7787          |
| 3           | Memory SCORE          | PASS          | 9335          |
| 4           | Graphic SCORE         | PASS          | N/A           |
| 5           | HDD SCORE             | PASS          | N/A           |

|   |
|---|
| <b>Test Environment</b>   |
| <b>Intel(R) Core(TM) i7-5650U 2.20GHz</b><br><b>Atla DDR3L 1600 2GB</b><br><b>(SKhynix H5TC4G63AFR-PBA)</b><br><b>Intel SSDSC2BW240A4 240GB</b> |

**Windows 7 32-bit**

| Item | Weighted Suite | Result | Remark |
|------|----------------|--------|--------|
| 1    | PCMark SCORE   | PASS   | N/A    |
| 2    | CPU SCORE      | PASS   | 8291   |
| 3    | Memory SCORE   | PASS   | 9175   |
| 4    | Graphic SCORE  | PASS   | N/A    |
| 5    | HDD SCORE      | PASS   | N/A    |

**Windows 7 64-bit**

| Item | Weighted Suite | Result | Remark |
|------|----------------|--------|--------|
| 1    | PCMark SCORE   | PASS   | N/A    |
| 2    | CPU SCORE      | PASS   | 8381   |
| 3    | Memory SCORE   | PASS   | 9810   |
| 4    | Graphic SCORE  | PASS   | N/A    |
| 5    | HDD SCORE      | PASS   | N/A    |

| Test Environment  |
|---|
| <p style="text-align: center;">Intel(R) Core(TM) i7-5650U 2.20GHz<br/> I'M DDR3L 1600 4GB<br/> (I'M IM8G16D3F BBG-15E1 MU5019)<br/> Westren Digital WD3000BEKT-00F3T0 320GB</p> |

**Windows 7 32-bit**

| Item | Weighted Suite | Result | Remark |
|------|----------------|--------|--------|
| 1    | PCMark SCORE   | PASS   | N/A    |
| 2    | CPU SCORE      | PASS   | 8094   |
| 3    | Memory SCORE   | PASS   | 8950   |
| 4    | Graphic SCORE  | PASS   | N/A    |
| 5    | HDD SCORE      | PASS   | N/A    |

## 5.7 Storage Performance

### 5.7.1 HDD

Test environment: OS Windows 7  
Program (HD Tune)

| HDD Model                             | Interface | Capacity | Average         | Burst Rate      | Access time |
|---------------------------------------|-----------|----------|-----------------|-----------------|-------------|
| Western Digital<br>WD10EALX-009BA0    | SATA3     | 1.0 TB   | 98.8<br>MB/sec  | 184.9<br>MB/sec | 13.0<br>ms  |
| Western Digital<br>WD2500BPVT-22JJ5T0 | SATA2     | 250 GB   | 51.8<br>MB/sec  | 69.2<br>MB/sec  | 19.2<br>ms  |
| Intel<br>SSDSC2BW240A4                | SSD       | 240 GB   | 229.8<br>MB/sec | 224.7<br>MB/sec | 0.2<br>ms   |
| Kingston<br>SV300S37A                 | SSD       | 240 GB   | 320.1<br>MB/sec | 66.2<br>MB/sec  | 0.1<br>ms   |
| MemoRight<br>MRSAJ6C064GC125C00       | SSD       | 64 GB    | 118<br>MB/sec   | 48<br>MB/sec    | 0.2<br>ms   |
| innodisk<br>DEMSR-32GD06SC2QC         | mSATA     | 32 GB    | 303.1<br>MB/sec | 291.6<br>MB/sec | 0.1<br>ms   |
| KingstonDT<br>HyperX 3.0              | USB 3.0   | 64 GB    | 30.8<br>MB/sec  | 20.8<br>MB/sec  | 0.8<br>ms   |
| SP<br>Silion-Power                    | USB 2.0   | 4 GB     | 1.1<br>MB/sec   | 1.1<br>MB/sec   | 1.4<br>ms   |

### 5.7.2 DVD-ROM

Test environment: OS Windows 7  
Program (NERO)

| DVD-ROM Model      | Interface | Average Speed | Full Read | Burst Rate | DVD           |
|--------------------|-----------|---------------|-----------|------------|---------------|
| ASUS<br>DRW-24D1ST | SATA      | 10.18 x       | 203 ms    | 48<br>MB/s | 16 X<br>DVD-R |

|                             |             |        |        |            |               |
|-----------------------------|-------------|--------|--------|------------|---------------|
| <b>LITE-ON<br/>iHES312</b>  | <b>SATA</b> | 9.45 x | 170 ms | 42<br>MB/s | 16 X<br>DVD-R |
| <b>PIONEER<br/>DVRXD11T</b> | <b>USB</b>  | 5.19 x | 174 ms | 20<br>MB/s | 16 X<br>DVD-R |
| <b>LITEON<br/>eTAU108</b>   | <b>USB</b>  | 4.92 x | 204 ms | 19<br>MB/s | 16 X<br>DVD-R |