

Report NO: 16P010004

# Boxer-6313

System Level Product

## Compatibility Test Report

| Summary         | <input checked="" type="checkbox"/> Pass<br><input type="checkbox"/> Fail<br><input type="checkbox"/> Pass with Deviation (Comment: _____) |       |       |             |
|-----------------|--|-------|-------|-------------|
|                 | Test Results Category  |       |       |             |
|                 | Critical   | Major | Minor | Enhancement |
| Defect Found    | 0  | 0     | 0     | 0           |
| Defect Unsolved | 0  | 0     | 0     | 0           |

Issue date

2016-04-19

QE Manager

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**Version Released Records**

| Date      | Version | Change History                                  | Note |
|-----------|---------|---|------|
| 5/26/2015 | C0      | 1. Add UEFI,GPS,CANBUS,POE, Cold boot test item |      |
|           |         |   |      |
|           |         |   |      |
|           |         |   |      |
|           |         |   |      |
|           |         |   |      |
|           |         |   |      |

**Note :**

For all test items in this report, 3 results have been defined and described as following:

- Pass:            Functionality work perfectly
- Fail:            Functionality failed and must be resolved in the next version
- N/A:            Functionality Not Applicable or Not Available

This test report will be updated when re-test completed in product next change version.

## Specification Validation

### Main Specification

| Item                | Specification   | Result                              |                          |                          | Note |
|---------------------|---|-------------------------------------|--------------------------|--------------------------|------|
|                     |   | Pass                                | Fail                     | N/A                      |      |
| SBC                 | PBA-BT08  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| Processor           | Intel ATOM E3845 1.91 GHz Processor   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| System Memory       | 204 pins DDR3L 1333MHz SODIMM x 1, Max.8GB  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| Display Interface   | DB-15 x 1 for VGA<br>HDMI x1 (Colay with DP)<br>LVDS x1 (refer to AAEON design)   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| Storage Device      | Easy access 2.5" SATA HDD bay x 2 (Front access) option mSATA<br>Easy access SIM x slot x 3 (Front access or bottom access)   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| Front I/O connector | Display<br>DB15 VGA x1<br>HDMI x1<br>Switch<br>Power ON/OFF Switch x 1 (w/LED)<br>2 pin Remote Reset Switch connector x1<br>SMA Antenna<br>GPS x1<br>WIFI x1<br>2G/3G/4G x 3<br>CANBUS<br>2 x CAN Bus, Support Raw CAN and Open Can (refer to PER-T248)<br>Storage<br>Lockable 2.5" Drive Bay x2 w/ well grounding (optional mSATA)<br>SIM slots x 3 (Could be bottom access if no enough I/O space)<br>LED<br>Onboard System Power LED x 1 (Green)<br>Onboard HDD Active LED x 1 (Red)<br>Onboard Power Status LED x 1 (Green) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| Rear I/O connector  | USB<br>USB 2.0 x 3<br>USB 3.0 x 1 (using double deck USB as PBA-BT03)<br>LAN<br>10/100/1000Mbps GbE RJ-45 x 2<br>Mini card connector x 3 (all full size, 1 connector support USB bus only and mSATA optional)<br>COM<br>DB9 x4 (RS-232 x2,  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |

|                             |  |                                     |                          |                          |               |
|-----------------------------|--|-------------------------------------|--------------------------|--------------------------|---------------|
|                             | RS-232/422/485 x 2, BIOS selectable)<br>POE<br>Optional for 10/100/1000Mbps<br>M12 802.11af x4 module (refer to order information)<br>Audio<br>Line-out x 1<br>Mic-in x 1<br>DC-in<br>3-pin terminal block Power input x 1 (ACC, V-, V+) |                                     |                          |                          |               |
| Internal Connector / Jumper | USB 2.0 x1 (for POE or Touch)<br>LVDS x1<br>LPC x1<br>SATA x2<br>4-pin DC out x2 for SATA Power (GND, +5V@1A, +12V@0.5A per port)<br>AT/ATX jumper (default ATX)<br>Clear CMOS jumper  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |               |
| Expansion Slot              | Full-size Mini-card x 3<br>SIM slot x3 (refer to multi-SIM board design)   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |               |
| DC input                    | DC 12V or DC24V w/ 3-pin terminal block (V+, V-, ACC)  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Jumper Select |

### O.S. Support

| Item              | Specification               | Result                              |                          |                                     | Note |
|-------------------|-----------------------------|-------------------------------------|--------------------------|-------------------------------------|------|
|                   |                             | Pass                                | Fail                     | N/A                                 |      |
| Microsoft Windows | Windows XP32/64bit          | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |      |
|                   | Windows 7, 32bit /64bit     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |      |
|                   | Windows 8.1 32bit/64bit     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |      |
| Linux             | Linux kernel 2.6.x or above | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |      |

## Platform Information

| Item                | Device Information   | Test Item |
|---------------------|--|-----------|
| System              | Boxer-6313   |           |
| PCB Model / Version | PBA-BT08 A0.2  |           |
| BIOS / Version      | BOXER-6313 R1.1(B313AM11) (12/25/2015) x64   |           |
| Driver              | BOXER-6313\20150608  |           |
| CPU Type            | Intel® Atom™ Processor E3845 (2M Cache, 1.91 GHz)                                    |           |
| Memory Type         | Innosidk 8GB DDR3L 1600 M3SW-8GPSDD0C-A26  |           |
| SATA HDD            | Toshiba MK1060GSC 2.5" 100GB   |           |
| SATA DVD-ROM        | N/A  |           |
| USB DVD-ROM         | ASUS-SBW-06D2X-U   |           |
| LCD Monitor         | Dell U2410 1920*1200   |           |
| Operating System    | <input type="checkbox"/> Ubuntu14.04 Kernel 3.13.0-21-generic                        |           |
|                     | <input checked="" type="checkbox"/> Windows 7 Ultimate SP1 English Version 32/64 Bit |           |
|                     | <input checked="" type="checkbox"/> Windows 8.1 Enterprise English Version 32/64Bit  |           |
| Power Supply        | Adapter: FSP FSP060-DBAB1 12V DC   |           |
| Chipset Information |  |           |
| SOC Bridge          | Intel Bay Trail  |           |
| Super IO Chipset    | Fintek F81866D-I   |           |
| Audio Chipset       | Realtek ALC892   |           |
| Ethernet Chipset    | Intel I211 Gigabit Ethernet  |           |

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# 1. Hardware Compatibility

## 1.1. CPU Compatibility Test

| CPU Information                                   | Result                              |                          |                          | Note |
|---|-------------------------------------|--------------------------|--------------------------|------|
|   | Pass                                | Fail                     | N/A                      |      |
| Intel® Atom™ Processor E3845 (2M Cache, 1.91 GHz) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |

## 1.2. Memory Compatibility Test

| Memory Information<br>(a. Information and frequency should show correct value.<br>b. Memtest result should not error or halt) | AAEON P/N        | Result                              |                          |                          | Note |
|---|------------------|-------------------------------------|--------------------------|--------------------------|------|
|   |                  | Pass                                | Fail                     | N/A                      |      |
| <b>DDR3L SO-DIMM</b>  |                  |                                     |                          |                          |      |
| Transcend DDR3L-1600 2GB(SEC 501 BYMA K4B2G0846Q)   | AP-DR968D3002 GK | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| Transcend DDR3L-1600 4GB(SEC 446 XYKO K4B4G0846D)   | AP-DR968D3004 G6 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| Transcend DDR3L-1600 8GB(SEC 443 BYKO K4B4G0846D)   | 968D3008G7       | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| InnoDisk DDR3L-1600 2GB(SEC 434 BYKO K4B2G0846Q)  | AP-DR968D3002 GX | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| InnoDisk DDR3L-1600 4GB(SEC 425 BYKO K4B4G0846D)  | 968D3004GZ       | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| InnoDisk DDR3L-1600 8GB(SEC 446 BYKO K4B4G0846D)  | 968D3008GW       | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| InnoDisk DDR3L 1600 W/T 8GB M3SW-8GPSDD0C-A26 Promos V73C8G04808RAJJ111   | 968D3008GE       | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| Innodisk DDR3L 1333 2GB Hynix H5TC2G83EFR M3S0-2GHJELN9-E93   | N/A              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| Innodisk DDR3L 1333 4GB Hynix H5TC4G83AFR M3S0-4GHSCLN9-E93   | N/A              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| Innodisk DDR3L 1333 8GB M3S0-8GHSDLN-E93 Hynix H5TC4G83AFR M3S0-8GHSDLN9-E93  | N/A              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| ADATA DDR3L 1600 2GB ADDS1600C2G11-BMIK Micron 4HK77 D9PSH  | N/A              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| ADATA DDR3L 1600 4GB ADDS1600W4G11-BMIE Micron 3YE77 D9QBJ  | N/A              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| ADATA DDR3L 1600 8GB ADD31600W8G11-BMIE Micron 3KE77 D9QBJ  | N/A              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| KintSton DDR3L 1600 2GB Kingston D2516EC4BXGGB  | N/A              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| KingSton DDR3L 1600 4GB Kingston D5128ED1FPGGBU   | N/A              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| KingSton DDR3L 1600 8GB Kingston D5128ED1FPGGBU   | N/A              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |

### 1.3. SATA Compatibility Test

#### 1.3.1 Onboard SATA(IDE / AHCI) Test

| SATA Device Information<br>(Information and size should show correct value with IDE and AHCI mode) |  | AAEON P/N        | Result                              |                          |                          | Note                   |
|--|--|------------------|-------------------------------------|--------------------------|--------------------------|------------------------|
|  |  |                  | Pass                                | Fail                     | N/A                      |                        |
| SATA   | Toshiba MK1060GSC 2.5" 100GB                       | N/A              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                        |
| SATAII   | Hitachi Z5K320-250 2.5" 250GB                      | N/A              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                        |
| SATAIII  | WD WD5000LPVX-22V0TT0 2.5" 500GB                   | N/A              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                        |
| SATAIII  | Toshiba MQ01ABF050 500GB                           | N/A              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                        |
| SATAIII  | HGST HTS541010A9E680 1TB 5400 rpm                  | N/A              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                        |
| SSD  | Transcend TS32GSSD370 2.5".32GB.SATA III SSD MLC.  | 968C032G2D       | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Max R/W: 222/40 MB/s   |
| SSD  | Transcend.TS64GSSD370 2.5".64GB. SATA III.SSD.MLC  | 968C64G003       | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Max R/W: 283/78 MB/s   |
| SSD  | Transcend.TS128GSSD370 2.5" SATA3 SSD.128GB.MLC.   | 968C128G0W       | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Max R/W: 283/157 MB/s  |
| SSD  | Innodisk DGS25-32GD81SC3QC-26 2.5" SATA3 SSD 32GB  | 968C032G1H       | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Max R/W : 282/88 MB/s  |
| SSD  | Innodisk DGS25-64GD81SC1QC-26 2.5" SATA3 SSD 64GB  | 968C064G2M       | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Max R/W : 282/174 MB/s |
| SSD  | Innodisk DGS25-A28D81SC1QC-26 2.5" SATA3 SSD 128GB | AP-SS968C128 G15 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Max R/W : 283/267 MB/s |

### 1.4. Flash Card Compatibility Test

| m-SATA Information<br>(a. Information and size should show correct value<br>(b. R/W and HDD LED should work properly) |  | AAEON P/N        | Result                              |                          |                          | Note                   |
|---|--|------------------|-------------------------------------|--------------------------|--------------------------|------------------------|
|   |  |                  | Pass                                | Fail                     | N/A                      |                        |
| Full Size   |  |                  |                                     |                          |                          |                        |
| Transcend.TS16GMSA370 Full-size mSATA.16GB.MLC.   |  | AP-SS968C016 G2Z | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Max R/W : 116/21 MB/s  |
| Transcend.TS32GMSA370 Full-size mSATA.32GB.MLC.   |  | 968C032G32       | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Max R/W : 222/41 MB/s  |
| Transcend.TS64GMSA371 (TF)Full-size.64GB.mSATA.MLC  |  | 968C064G2K       | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Max R/W : 284/80 MB/s  |
| Innodisk D150Q 32GB   |  | N/A              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Max R/W : 132/123 MB/s |

### 1.5. Monitor Compatibility Test

| Monitor Information<br>a. Monitor should display under DOS and OS environment.<br>b. Monitor should not appear ghost or ripples. |  | Result                              |                          |                          | Note |
|--|--|-------------------------------------|--------------------------|--------------------------|------|
|  |  | Pass                                | Fail                     | N/A                      |      |
| VGA  |  |                                     |                          |                          |      |
| Dell U2713HM   |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| PHILIPS 288P   |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| BenQ BL2710  |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| View Sonic VA703b  |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| Dell E178FP  |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |



| HDMI                |                                     |                          |                          |  |
|---------------------|-------------------------------------|--------------------------|--------------------------|--|
| Dell U2713HM        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
| PHILIPS 288P        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
| BenQ BL2710         | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
| ASUS VG23AH         | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
| ViewSonic VT2430-NY | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
| DP                  |                                     |                          |                          |  |
| Dell U2713HM        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
| PHILIPS 288P        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
| BENQ BL2710         | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |

## 2. Basic Function Test

### 2.1. Video Function Test

#### 2.1.1. Single Output Function Test

| Configuration  |  |                          |                                     |                                     |                          |                                     |                          |                          |                                     |                          |                          |                                     |                              |
|----------------|--|--------------------------|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|------------------------------|
| CPU            | Intel® Atom™ Processor E3845 (2M Cache, 1.91 GHz)  |                          |                                     |                                     |                          |                                     |                          |                          |                                     |                          |                          |                                     |                              |
| Memory         | Innosidk 8GB DDR3L 1600 M3SW-8GPSDD0C-A26  |                          |                                     |                                     |                          |                                     |                          |                          |                                     |                          |                          |                                     |                              |
| SATA HDD       | Toshiba MK1060GSC 2.5" 100GB   |                          |                                     |                                     |                          |                                     |                          |                          |                                     |                          |                          |                                     |                              |
| VGA            | DELL U2713HM 27" 2048*1152   |                          |                                     |                                     |                          |                                     |                          |                          |                                     |                          |                          |                                     |                              |
| HDMI           | DELL U2713HM 27" 1920*1080   |                          |                                     |                                     |                          |                                     |                          |                          |                                     |                          |                          |                                     |                              |
| DP             | DELL U2713HM 27" 2560*1440   |                          |                                     |                                     |                          |                                     |                          |                          |                                     |                          |                          |                                     |                              |
| LVDS           | AUO M215HW03 V1 1920*1080  |                          |                                     |                                     |                          |                                     |                          |                          |                                     |                          |                          |                                     |                              |
| O.S            | Windows7 Ultimate SP1 English 32bit  |                          |                                     |                                     |                          |                                     |                          |                          |                                     |                          |                          |                                     |                              |
| Color Quality  | <input checked="" type="checkbox"/> 16bit <input type="checkbox"/> 24bit <input checked="" type="checkbox"/> 32bit |                          |                                     |                                     |                          |                                     |                          |                          |                                     |                          |                          |                                     |                              |
| Resolution     | VGA  |                          |                                     | HDMI                                |                          |                                     | LVDS                     |                          |                                     | DP (option)              |                          |                                     | Note                         |
|                | Pass   | Fail                     | N/A                                 | Pass                                | Fail                     | N/A                                 | Pass                     | Fail                     | N/A                                 | Pass                     | Fail                     | N/A                                 |                              |
| 640X480        | <input type="checkbox"/>   | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                              |
| 800X600        | <input type="checkbox"/>   | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                              |
| 1024X768       | <input checked="" type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                              |
| 1152X864       | <input checked="" type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                              |
| 1280X600       | <input type="checkbox"/>   | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                              |
| 1280X720       | <input type="checkbox"/>   | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                              |
| 1280X768       | <input checked="" type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                              |
| 1280X800       | <input checked="" type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                              |
| 1280X960       | <input checked="" type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                              |
| 1280X1024      | <input checked="" type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                              |
| 1360X768       | <input checked="" type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                              |
| 1366X768       | <input checked="" type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                              |
| 1400X1050      | <input checked="" type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                              |
| 1600X900       | <input checked="" type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                              |
| 1600X1200      | <input checked="" type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                              |
| 1680X1050      | <input checked="" type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                              |
| 1792X1344      | <input type="checkbox"/>   | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                              |
| 1856X1392      | <input type="checkbox"/>   | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                              |
| 1920X1080      | <input checked="" type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                              |
| 1920X1200      | <input checked="" type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                              |
| 1920X1440      | <input type="checkbox"/>   | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                              |
| 2048X1152      | <input checked="" type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                              |
| 2560X1440      | <input type="checkbox"/>   | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                              |
| EDID check     | <input checked="" type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                              |
| Hot plug       | <input type="checkbox"/>   | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                              |
| Display on DOS | <input checked="" type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                              |
| Rotation       | <input checked="" type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Rotation ( 0 / 90 /180 /270) |

Note: Pay attention to Full Screen under POST screen and Text Mode.

### 2.1.2. Multi-Display Test

| Selection          | Output     | Result                              |                          |                                     | Note |
|--------------------|------------|-------------------------------------|--------------------------|-------------------------------------|------|
|                    |            | Pass                                | Fail                     | N/A                                 |      |
| Dual Display Clone | VGA + HDMI | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |      |
| Extended Desktop   |            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |      |
| Dual Display Clone | VGA+LVDS   | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |      |
| Extended Desktop   |            | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |      |
| Dual Display Clone | HDMI+LVDS  | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |      |
| Extended Desktop   |            | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |      |
| Dual Display Clone | VGA+DP     | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |      |
| Extended Desktop   |            | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |      |
| Dual Display Clone | DP+LVDS    | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |      |
| Extended Desktop   |            | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |      |

### 2.1.3. Video Resolution Test

Test points:

1. Power on without inserting any VGA connector until system reaches Windows desktop
2. Plug VGA connector into test machine while system reaches Windows; then check VGA driver and display
3. Check VGA output Brightness to if it is normal, no "Ghost Image" / "Flicker"

|                    | Result                              |                          |                          | Note |
|--------------------|-------------------------------------|--------------------------|--------------------------|------|
|                    | Pass                                | Fail                     | N/A                      |      |
| In Windows Desktop | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |

### 2.1.4. Video Resolution Test

| LVDS Panel Model<br>(LVDS display should full screen and no flicker) |           |   | Result                   |                          |                                     | Note                   |
|--|-----------|---|--------------------------|--------------------------|-------------------------------------|------------------------|
|  |           |   | Pass                     | Fail                     | N/A                                 |                        |
| 18bit  | 800x600   | AUO G084SN05 V.7                                | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Standard               |
|  | 1024x768  | AUO LED backlight G121XN01-V0<br>1024*768 18bit | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | IPC_Bu and<br>standard |
|  | 1280x768  | Toshiba /12.1"/1280 x 768 x 18bit (16:9)        | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Standard               |
| 24bit  | 1366x768  | AUO G185XW01 V0 / 18" / 1366x768 /<br>24bit     | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Standard               |
| 48bit  | 1920x1080 | AUO M215HW03 V1 / 21" / 1920*1080 /<br>48bit    | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | IPC_BU and<br>standard |







### 2.2. Audio Function Test

[ ] No Support

| Function Test                         | Result                              |                          |                                     | Note |
|---------------------------------------|-------------------------------------|--------------------------|-------------------------------------|------|
|                                       | Pass                                | Fail                     | N/A                                 |      |
| L (Left) Channel                      | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |      |
| R (Right) Channel                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |      |
| Line In                               | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |      |
| Line in recorder                      | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |      |
| MICROPHONE                            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |      |
| Microphone recorder                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |      |
| HDMI Audio                            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |      |
| DP Audio                              | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |      |
| 6-channel mode for 5.1 speaker output | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |      |

## 2.3. LAN Function Test

[ ] No Support

| Connect two computers via different speed LAN HUB by using "Ping" instruction (1000 times) |   |   |                                     |                          |                                     |                                     |                          |                                     |                            |  |
|--|---|---|-------------------------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|----------------------------|--|
| 1000MBps LAN HUB   |   |   | D-Link DGS-1008D                    |                          |                                     |                                     |                          |                                     |                            |  |
| 100MBps LAN HUB  |   |   | HP J4095A 24 Ports                  |                          |                                     |                                     |                          |                                     |                            |  |
| 10MBps LAN HUB   |   |   | SVEC FD916H                         |                          |                                     |                                     |                          |                                     |                            |  |
| OnBoard LAN1   |   | Intel I211 Gigabit LAN  |                                     |                          |                                     |                                     | MAC Address              |                                     | 00-0B-51-40-00-17          |  |
| OnBoard LAN2   |   | Intel I211 Gigabit LAN  |                                     |                          |                                     |                                     | MAC Address              |                                     | 00-0B-51-40-00-18          |  |
| LAN Speed  | Link / Speed LED  | Active LED  | LAN 1                               |                          |                                     | LAN 2                               |                          |                                     | Note                       |  |
|  |   |   | Pass                                | Fail                     | N/A                                 | Pass                                | Fail                     | N/A                                 |                            |  |
| 1000MBps   |  |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                            |  |
| 100MBps  |  |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                            |  |
| 10MBps   |  |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                            |  |
| Wake On LAN  |   |   | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | System was not support WOL |  |
| LAN Boot (PXE)   |   |   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                            |  |
| Internet Browser (DHCP Server)   |   |   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                            |  |

### 2.3.2. Throughput Test

DUT Platform Information:

|                                     |                                      |
|-------------------------------------|--------------------------------------|
| <input type="checkbox"/>            | Fedora Core 14 – Kernel              |
| <input type="checkbox"/>            | Cent OS5.6                           |
| <input checked="" type="checkbox"/> | Ubuntu15.04 kernel 3.19.0-15-generic |
| <input type="checkbox"/>            | Red Hat                              |

Note : Connection-Level Performance (Interaction Constants Duration Time Set to 60 Sec.)

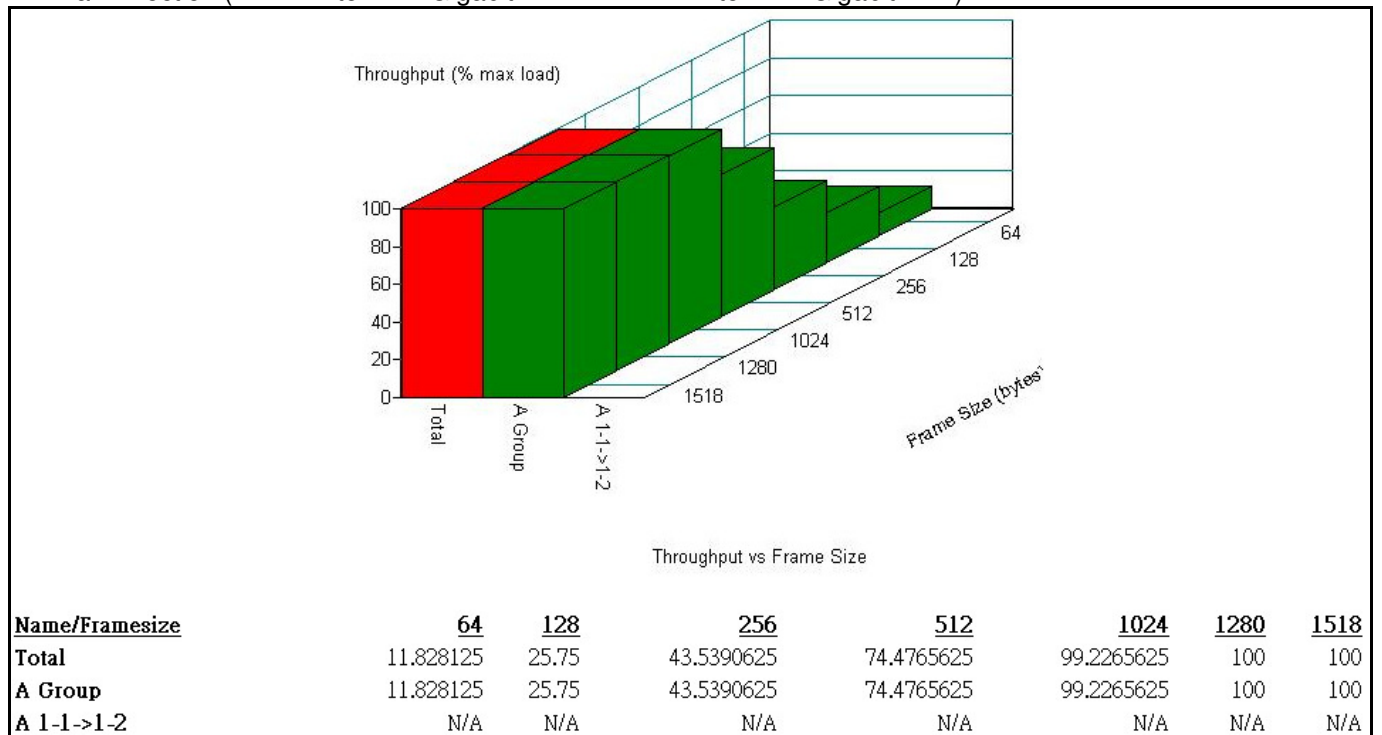
|                |   |
|----------------|---|
| Graphics Media | Ubuntu15.04 Default setting                               |
| LAN            | Intel I211 Intel Gigabit Ethernet Network Driver 5.2.15-K |
| Audio Driver   | Ubuntu15.04 Default setting                               |
| CPU            | J1900   |

SMB Platform Information:

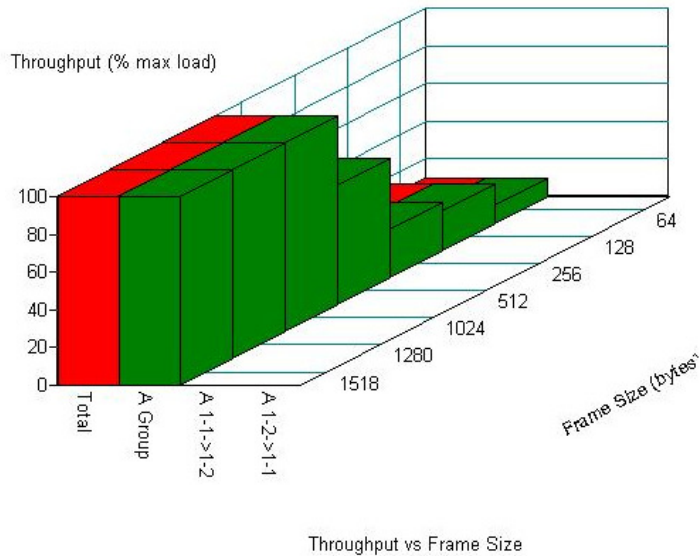
|                  |   |
|------------------|---|
| Chassis          | SPIRENT Smartbits 600B  |
| Chassis Version  | 2.80.003 (Cur) 2.50.000   |
| Chassis Serial # | 06014047  |
| Library          | 6.00-29   |
| API              | 5.50.42.01  |
| File             | 0550042   |
| Module           | 2 * LAN-3324A SmartMetrics XD 4-Port 10/100/1000Base-T Gigabit Ethernet |
| Test Software    | SmartFlow5.50.42.1  |

Test Result:

#### 1. Half Direction (LAN1: Intel I211 Gigabit LAN → LAN2: Intel I211 Gigabit LAN)



2. Binary Direction (LAN1: Intel I211 Gigabit LAN ↔ LAN2: Intel I211 Gigabit LAN)



| Name/Frame size | 64        | 128        | 256        | 512    | 1024 | 1280 | 1518 |
|-----------------|-----------|------------|------------|--------|------|------|------|
| Total           | 9.5078125 | 20.3359375 | 24.9765625 | 62.875 | 100  | 100  | 100  |
| A Group         | 9.5078125 | 20.3359375 | 24.9765625 | 62.875 | 100  | 100  | 100  |
| A 1-1->1-2      | N/A       | N/A        | N/A        | N/A    | N/A  | N/A  | N/A  |
| A 1-2->1-1      | N/A       | N/A        | N/A        | N/A    | N/A  | N/A  | N/A  |

2.4. COM Ports Test

| Test Item                           | Result                              |                          |                                     | Note                        |
|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|-----------------------------|
|                                     | Pass                                | Fail                     | N/A                                 |                             |
| Serial Modem Dial Out               | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                             |
| Serial Modem Ring In                | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Test by Modem—Not supported |
| Serial Modem +12V                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Test by Multimeter COM3/4   |
| Serial Modem +5V                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Test by Multimeter COM3/4   |
| Transmission Test <115200bps / 15M> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                             |

2.5. RS-422 / RS-485 Test

| Test Item         | Result                              |                          |                          | Note  |
|-------------------|-------------------------------------|--------------------------|--------------------------|---|
|                   | Pass                                | Fail                     | N/A                      |   |
| RS-422 for COM2/3 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Use loopback and WINSSD.exe to test RS-422 in Windows   |
| RS-422 for COM2/3 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1. The communication between the RS-422 port of two boards is linked by one 1.2km cable on Windows Terminal.<br>2. Confirm RS422 can work properly from G3 status |
| RS-485 for COM2/3 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Use ICP CON I-7044D D/IO Module in Windows(Support Auto flow control)<br>BIOS need to select "RS485 receiver half duplex"   |

|  |                                     |                          |                          |  |
|--|-------------------------------------|--------------------------|--------------------------|--|
|  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1. The communication between the RS-485 port of two boards is linked by one 1.2km cable on Windows Terminal<br>2. Confirm RS485 can work properly from G3 status<br>BIOS need to select "RS485 receiver half duplex" |
|--|-------------------------------------|--------------------------|--------------------------|--|

## 2.6. LPT Port Test

| Test Item                       | Result                   |                          |                                     | Note |
|---------------------------------|--------------------------|--------------------------|-------------------------------------|------|
|                                 | Pass                     | Fail                     | N/A                                 |      |
| XEROX Phaser 3124 Laser Printer | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |      |

## 2.7. Digital I/O Test

| Test item            | Result                              |                          |                          | Note |
|----------------------|-------------------------------------|--------------------------|--------------------------|------|
|                      | Pass                                | Fail                     | N/A                      |      |
| DIO VCC +5V or +3.3V | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Cn29 |

## 2.8. USB Port Integration Test

| Item          |                              | USB Port | USB2.0 ports (under OS)             |                          |                          | USB3.0 ports (under OS)             |                          |                          | Note |
|---------------|------------------------------|----------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|------|
|               |                              |          | Pass                                | Fail                     | N/A                      | Pass                                | Fail                     | N/A                      |      |
| USB HDD:      | Transcend TS500GSJ25D3 500GB |          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| USB Flash:    | Sandisk Cruzer 8GB           |          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
|               | Kingston DT Ultimate G2 16GB |          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
|               | PNY 128GB                    |          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| USB DVD ROM:  | ASUS SBW-06D2X-U             |          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| USB keyboard: | Logitech Y-U0011             |          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| USB mouse:    | Logitech M-U0003             |          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| USB FDD:      | Mitsumi D353GUE              |          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |

## 2.9. CAN BUS Test

| CAN BUS Compatibility Test |                   |                |  | Result                              |                          |                          | Note                       |
|----------------------------|-------------------|----------------|--|-------------------------------------|--------------------------|--------------------------|----------------------------|
|                            |                   |                |  | Pass                                | Fail                     | N/A                      |                            |
| ICP I-7565-H2-G CR         |                   |                |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | COM port baud rate 9600bps |
| 30 meter transmission test |                   |                |  | Result                              |                          |                          | Note                       |
|                            |                   |                |  | Pass                                | Fail                     | N/A                      |                            |
| Port0                      | S mode and E mode | 125K Baud rate |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                            |
|                            |                   | 500K Baud rate |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                            |
|                            |                   | 1M Baud rate   |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                            |
| Port1                      | S mode            | 125K Baud rate |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                            |

|  |            |                |                                     |                          |                          |  |
|--|------------|----------------|-------------------------------------|--------------------------|--------------------------|--|
|  | and E mode | 500K Baud rate | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
|  |            | 1M Baud rate   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |

### 2.10. GPS Function Test

| Test item                                | Result                  |      |                                     | Note                     |                          |  |
|--|-------------------------|------|-------------------------------------|--------------------------|--------------------------|--|
|  | Pass                    | Fail | N/A                                 |                          |                          |  |
| USB to GPS (COM7) U-blox GE-708A         |                         |      |                                     |                          |                          |  |
| Time-To-First-Fix (TTFF)                 | cold start Fix time<35s |      | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
|  | Warm start Fix time<35s |      | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
| X / Y/ Z coordinate check (Fix mode: 3D) |                         |      | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |

### 2.11. Jumper and Connector Function Test

[ ] No Support

| Test item  | Result   |        |                                     | Note                     |                          |  |
|--|--|--------|-------------------------------------|--------------------------|--------------------------|--|
|  | Pass   | Fail   | N/A                                 |                          |                          |  |
| LVDS voltage jumper support 3.3V / 5V selection.                 |  |        |                                     |                          |                          |  |
| Inverter voltage jumper support 5V / 12V selection.              |  |        |                                     |                          |                          |  |
| Brightness control jumper  | PWM mode support 0~100% modulation   |        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
|  | DC mode support 0~100% modulation  |        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
| COM_VSET jumper support 12V / 5V / RI                            |  |        |                                     |                          |                          |  |
| Clear CMOS will clear CMOS date, time, setting, password.        |  |        |                                     |                          |                          |  |
| Buzzer and 4 pin Speaker test                                    | System boot: one short beep.   |        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
|  | No memory found:<br>One long beep, two short beep, pause a period of time, and loop. |        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
| Power button   | One touch for power on.  |        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
|  | > 4sec for power off.  |        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
| Reset button, system reset under DOS or Windows.<br>SW1 and CN24 |  |        |                                     |                          |                          |  |
| Power LED, active when system boot.                              |  |        |                                     |                          |                          |  |
| HDD LED, active when SATA/CF/CFast/mSATA access                  |  |        |                                     |                          |                          |  |
| CHA FAN  | full speed can meet FAN specification  |        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | CN34, It's not support H/W monitor\ FAN speed. |
| JP8 AT/ATX mode  |  |        |                                     |                          |                          |  |
| JP7 Touch select   |  |        |                                     |                          |                          |  |
| CN26 touch connector   |  |        |                                     |                          |                          |  |
| CN27 USB2.0 connector  |  |        |                                     |                          |                          |  |
| DC in 12V or 24V selection: CN60 13-14                           |  |        |                                     |                          |                          |  |
| CN60 MCU Delay ON/OFF/Voltage Select                             | On delay   | 1 sec  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
|  |  | 3 sec  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
|  |  | 5 sec  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
|  |  | 10 sec | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
|  |  | 15 sec | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
|  |  | 20 sec | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |



|  |           |         |                                     |                          |                          |  |
|--|-----------|---------|-------------------------------------|--------------------------|--------------------------|--|
|  |           | 25 sec  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
|  |           | 30 sec  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
|  | Off Delay | 0 min   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
|  |           | 1 min   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
|  |           | 3 min   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
|  |           | 30 min  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |
|  |           | 120 min | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |  |

### 3. Expansion card and Application Test

#### 3.1. Expansion Slot Compatibility Test

Test point: Device should work properly in windows environment

| Mini PCI Express Card                              | Result                              |                          |                          | Note       |
|--|-------------------------------------|--------------------------|--------------------------|------------|
|  | Pass                                | Fail                     | N/A                      |            |
| HUAWEI EM680 3G Card                               | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | CN15/17/19 |
| AzureWave AW-NB100H(PCI-e Wireless+ USB Bluetooth) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | CN15/17    |
| AAEON PER-C11L Gigabit LAN card                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | CN15/17    |
| AAEON PER-C41C-A10 4 ports RS-232                  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | CN15/17    |
| COM-ME232s2 2 ports RS-232                         | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | CN15/17    |
| Ralink RT2890T 802.11n WIFI card                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | CN15/17    |

#### 3.2. Expansion Card Integration Test

| Test Item  | Result                              |                          |                          | Note |
|--|-------------------------------------|--------------------------|--------------------------|------|
|  | Pass                                | Fail                     | N/A                      |      |
| 1. Connect devices to all of expansion slots.<br>2. No error during OS and driver installation | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |

#### 3.3. Display port Converter Compatibility Test

| Test Item                         |             |             | Result                              |                          |                          | Note                      |
|-----------------------------------|-------------|-------------|-------------------------------------|--------------------------|--------------------------|---------------------------|
|                                   |             |             | Pass                                | Fail                     | N/A                      |                           |
| DP to HDMI converter:<br>LPC-1504 | DOS display | Full screen | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                           |
|                                   | OS display  | Full screen | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Max resolution: 1920*1080 |
| DP to DVI converter:<br>LPC-1503  | DOS display | Full screen | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                           |
|                                   | OS display  | Full screen | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Max resolution: 1920*1080 |

## 4. Power Consumption Test

| Configuration |   |
|---------------|---|
| CPU           | Intel® Atom™ Processor E3845 (2M Cache, 1.91 GHz) |
| Memory        | Innosidk 8GB DDR3L 1600 M3SW-8GPSDD0C-A26         |
| Storage       | Toshiba MK1060GSC 2.5" 100GB                      |
| O.S           | Windows7 Ultimate SP1 English version 32bit       |

### 4.1. Power Consumption

Please refer to the "Power Supply Electronics Test Report"

### 4.2. PC Health Status

Test Point:

Voltage deviation:  $\pm 5\%$ .

Fan speed deviation:  $\pm 10\%$

CPU DTS Temp deviation:  $\pm 15^{\circ}\text{C}$

System Temp deviation:  $\pm 5^{\circ}\text{C}$

| Voltage Monitoring Test | Result                              |                          |                          | BIOS (V)              | Actual (V)            | Note |
|-------------------------|-------------------------------------|--------------------------|--------------------------|-----------------------|-----------------------|------|
|                         | Pass                                | Fail                     | N/A                      |                       |                       |      |
| Vcore                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 0.824                 | 0.82                  |      |
| (+) 12V                 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 12.056V               | 11.96V                |      |
| (+) 5V                  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4.760V                | 5V                    |      |
| (+) VMEM                | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1.368V                | 1.36V                 |      |
| (+) 3.3V                | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3.376V                | 3.34V                 |      |
| (+) 3VSB                | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3.376V                | 3.34V                 |      |
| (+) 5VSB                | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 5.064V                | 5V                    |      |
| VBAT                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3.088V                | 3.07V                 |      |
| System Fan1 Speed       | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | N/A RPM               | N/A RPM               |      |
| System Fan2 Speed       | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | N/A RPM               | N/A RPM               |      |
| CPU DTS Temp            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 44 $^{\circ}\text{C}$ | 40 $^{\circ}\text{C}$ |      |
| System Temp             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 33 $^{\circ}\text{C}$ | 31 $^{\circ}\text{C}$ |      |

### 4.3. CMOS Battery Test

Test Point: Calculated result should be > 5 years.

Battery: CR2032

Capacity 225mA

| Check item  | Measured Voltage |   | Measured Current |    | Calculate Result |       | Result                              |                          |                          | Note |
|---|------------------|---|------------------|----|------------------|-------|-------------------------------------|--------------------------|--------------------------|------|
|   |                  |   |                  |    |                  |       | Pass                                | Fail                     | N/A                      |      |
| Battery leakage<br>1. Voltage should be >3V.<br>2. Calculated result should be > 5 years. | 3.05             | V | 1.8              | uA | 14               | years | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |

Calculate result=225mA/measured current / 365days/24hours

## 5. Time Accuracy Test

### 5.1. System Clock & RTC Clock Test

Under Room Temperature: 26 °C

| Function                    | Item | Time Interval | Criteria | Actual | Result                              |                          |                          | Note |
|-----------------------------|------|---------------|----------|--------|-------------------------------------|--------------------------|--------------------------|------|
|                             |      |               |          |        | Pass                                | Fail                     | N/A                      |      |
| RTC Clock in Power On Mode  |      | 24 hrs        | +/-2 sec | +0 Sec | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| RTC Clock in Power Off Mode |      | 24 hrs        | +/-2 sec | +0 Sec | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |

### 5.2. Booting Timer Test

| Installation        | Actual |     | Note   |
|---------------------|--------|-----|--|
| System Booting Time | 9      | Sec | Press the Power Button till "Beep" Sound appears |

### 5.3. Watchdog Timer Test

Use Function as below:

[ ] No Support. Test with Hi-Safe0612

| Time-Out Interval | Margin for error | Actual | Actual | Result                              |                          |                          | Note |
|-------------------|------------------|--------|--------|-------------------------------------|--------------------------|--------------------------|------|
|                   |                  |        |        | Pass                                | Fail                     | N/A                      |      |
| 10 sec            | + / - 10 %       | 10.1   | Sec    | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| 60 sec            | + / - 10 %       | 60.5   | Sec    | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| 255 sec           | + / - 10 %       | 256    | Sec    | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |

Note : Under Room Temperature: 26°C / DOS Mode

## 6. O.S. Compatibility Test

### 6.1. English Ubuntu14.04 Kernel 3.13.0-21-generic

[ X ] No Support

Driver Information:

|                  |                |
|------------------|----------------|
| Chipset Software | System default |
| Graphics Media   | System default |
| Audio Driver     | System default |
| LAN Driver       | System default |

Install OS to SATA HDD:

| Installation                         | Result                   |                          |                                     | Note                  |
|--------------------------------------|--------------------------|--------------------------|-------------------------------------|-----------------------|
|                                      | Pass                     | Fail                     | N/A                                 |                       |
| Ubuntu14.04 Kernel 3.13.0-21-generic | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Type uname -a<br>AHCI |

Test Result:

| Test Item  | Result                   |                          |                                     | Note   |
|--|--------------------------|--------------------------|-------------------------------------|--|
|  | Pass                     | Fail                     | N/A                                 |  |
| <b>Display Function Test</b>                                 |                          |                          |                                     |  |
| VGA -- Full Screen   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 1920*1080                                      |
| HDMI   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 1920*1080                                      |
| LVDS   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 1920*1080                                      |
| <b>Network Function Test</b>                                 |                          |                          |                                     |  |
| Connect to Internet – LAN 1                                  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |  |
| Connect to Internet – LAN 2                                  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |  |
| <b>Audio Function Test</b>                                   |                          |                          |                                     |  |
| Play Audio Function Test                                     | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Play Audio Test (USB DVD ROM and SATA DVD ROM) |
| HDMI audio   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | .  |
| <b>Base Function Test</b>                                    |                          |                          |                                     |  |
| Mouse Test   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | PS/2 USB                                       |
| Keyboard Test  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | PS/2 USB                                       |
| USB 2.0 Removable Devices                                    | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |  |
| Console Test   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Support com1/com2 <minicom -s>                 |
| <b>X Windows Application</b>                                 |                          |                          |                                     |  |
| Start Button Office  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Office function                                |
| X-Window   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Startx – Desktop in Linux                      |
| <b>Command Test On Text Mode: Attention Delay Phenomenon</b> |                          |                          |                                     |  |
| uname -a   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Show information                               |
| Shutdown   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Power off icon or shutdown -h now              |
| Restart the Computer   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Reset icon or shutdown -r now                  |
| Halt   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | System halt.                                   |
| ls / clear .....; cd /dev /ls -l                             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Command instruction                            |

## 6.2. Windows 7 Ultimate English Version 32/64Bit

[ X ] x32/x64 Driver Information:

|                  |   |
|------------------|---|
| Chipset Software | Intel Chipset Device Software 10.0 (05/05/2015)   |
| Graphics Media   | Intel HD Graphics 10.18.10.4176 (3/30/2015)   |
| Audio Driver     | Realtek High Definition Audio 6.0.1.7487 (04/14/2015)<br>Intel Display Audio 6.16.0.3154 (09/09/2014) |
| LAN Driver       | Intel I211 Gigabit Network Connection 12.11.97.0 (3/11/2014)  |
| Intel TXE        | N/A   |

Install OS to SATA HDD:

| Installation                         | Result                              |                          |                          | Note                              |
|--------------------------------------|-------------------------------------|--------------------------|--------------------------|-----------------------------------|
|                                      | Pass                                | Fail                     | N/A                      |                                   |
| English Windows 7 Ultimate ACPI Mode | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 32bit AHCI mode<br>64bit IDE mode |

Test Results:

| Test Item  | Result                              |                          |                                     | Note               |
|--|-------------------------------------|--------------------------|-------------------------------------|--------------------|
|  | Pass                                | Fail                     | N/A                                 |                    |
| <b>Single Display</b>                                  |                                     |                          |                                     |                    |
| VGA -- Full Screen                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 2048*1152          |
| HDMI -- Full Screen                                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 1920*1080          |
| Display port -- Full screen (option)                   | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 1920*1080          |
| LVDS   | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 1920*1080          |
| <b>Boot - Windows 7 Ultimate Advanced Options Menu</b> |                                     |                          |                                     |                    |
| Safe Mode  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                    |
| <b>Basic Function Test</b>                             |                                     |                          |                                     |                    |
| PS/2 Keyboard/Mouse                                    | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                    |
| USB Mouse and Keyboard                                 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                    |
| COM Port Mouse detect                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | COM1/2/3/4         |
| TPM  | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                    |
| LPT1   | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                    |
| USB 2.0/3.0 Removable Devices                          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | USB3.0*1; USB2.0*3 |
| <b>LAN Function Test</b>                               |                                     |                          |                                     |                    |
| LAN1 --- Auto  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                    |
| LAN2 --- Auto  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                    |
| <b>Audio Function Test</b>                             |                                     |                          |                                     |                    |
| Line Out Test  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                    |
| Microphone in  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                    |
| HDMI Audio Test  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                    |
| DP Audio Test  | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                    |
| <b>Start Menu</b>                                      |                                     |                          |                                     |                    |
| Log off User   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                    |
| Shut down (S5)   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                    |
| Standby(S3)  | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                    |
| Restart  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                    |
| Hibernate (S4)   | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                    |

### 6.3. Windows 8.1 Enterprise English Version 32/64Bit

[ X ] x32 Driver Information:

|                  |   |
|------------------|---|
| Chipset Software | Intel Chipset Device Software 10.0 (05/05/2015)   |
| Graphics Media   | Intel HD Graphics 10.18.10.4176 (3/30/2015)   |
| Audio Driver     | Realtek High Definition Audio 6.0.1.7487 (04/14/2015)<br>Intel Display Audio 6.16.0.3154 (09/09/2014) |
| LAN Driver       | Intel I211 Gigabit Network Connection 12.11.97.0 (3/11/2014)  |

[ X ] x64 Driver Information:

|                  |   |
|------------------|---|
| Chipset Software | Intel Chipset Device Software 10.0 (05/05/2015)   |
| Graphics Media   | Intel HD Graphics 10.18.10.4176 (3/30/2015)   |
| Audio Driver     | Realtek High Definition Audio 6.0.1.7487 (04/14/2015)<br>Intel Display Audio 6.16.0.3154 (09/09/2014) |
| LAN Driver       | Intel I211 Gigabit Network Connection 12.11.97.0 (3/11/2014)  |
| Intel TXE        | N/A   |

Install OS to SATA HDD:

| Installation                           | Result                              |                          |                          | Note |
|--|-------------------------------------|--------------------------|--------------------------|------|
|  | Pass                                | Fail                     | N/A                      |      |
| Windows 8.1 Enterprise 32bit           | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | AHCI |
| Windows 8.1 Enterprise 64bit UEFI mode | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | AHCI |

Test Results:

| Test Item  | Result                              |                          |                                     | Note               |
|--|-------------------------------------|--------------------------|-------------------------------------|--------------------|
|  | Pass                                | Fail                     | N/A                                 |                    |
| <b>Single Display</b>                                      |                                     |                          |                                     |                    |
| VGA -- Full Screen   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 2048*1152          |
| HDMI -- Full Screen  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | 1920*1080          |
| DP -- Full Screen (option)                                 | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 1920*1080          |
| LVDS -- Full Screen  | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 1920*1080          |
| <b>Boot - Windows 8.1 Enterprise Advanced Options Menu</b> |                                     |                          |                                     |                    |
| Safe Mode  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                    |
| <b>Basic Function Test</b>                                 |                                     |                          |                                     |                    |
| PS/2 Keyboard/Mouse  | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                    |
| USB Mouse and Keyboard                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                    |
| COM Port Mouse detect                                      | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | CM1~4              |
| LPT1   | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                    |
| USB 2.0/3.0 Removable Devices                              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | USB2.0*3; USB3.0*1 |
| Touch Function   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                    |
| <b>LAN Function Test</b>                                   |                                     |                          |                                     |                    |
| LAN1 --- Auto  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                    |
| LAN2 --- Auto  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                    |
| <b>Audio Function Test</b>                                 |                                     |                          |                                     |                    |
| Front Line out   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                    |
| Line In Test   | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                    |
| Microphone Test  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                    |
| HDMI Audio Test  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                    |
| DP Audio Test  | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                    |
| <b>Start Menu</b>  |                                     |                          |                                     |                    |
| Log off User   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                    |
| Shut down (S5)   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                    |
| Standby(S3)  | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                    |
| Restart  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                    |
| Hibernate (S4)   | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                    |

## 7. BIOS Function Test

| Configuration |  |
|---------------|--|
| CPU           | Intel® Atom™ Processor E3845 (2M Cache, 1.91 GHz)          |
| Memory        | ADATA DDR3L 1600 4GB ADDS1600W4G11-BMIE Micron 4PE77 D9QBJ |
| SATA HDD      | Toshiba MK1060GSC 2.5" 100GB                               |
| O.S           | Windows7 Ultimate SP1 English version 64bit                |

### 7.1. Advanced Test

| Test Item              |                           | Result                              |                          |                                     | Note                       |
|------------------------|---------------------------|-------------------------------------|--------------------------|-------------------------------------|----------------------------|
|                        |                           | Pass                                | Fail                     | N/A                                 |                            |
| CPU configuration      | Information               | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                            |
|                        | Virtualization Technology | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Enable/Disable             |
|                        | EIST                      | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Disable will fix on 0.5GHz |
| SATA configuration     | SATA controller           | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Enable/Disable             |
|                        | AHCI mode                 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                            |
|                        | Hot plug                  | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                            |
|                        | IDE mode                  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                            |
| USB configuration      | Legacy USB Support        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                            |
| H/W Monitor            | Information               | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                            |
| Super IO configuration | Serial port 1             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Enable/Disable             |
|                        | Serial port 2             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                            |
|                        | RS232                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                            |
|                        | RS422                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                            |
|                        | RS485                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                            |
|                        | Serial port 3             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                            |
|                        | RS232                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                            |
|                        | RS422                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                            |
|                        | RS485                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                            |
|                        | Serial Port4              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                            |
| Dynamic Digital IO     | DIO0~7                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                            |

### 7.2. Chipset Test

| Test Item    |                           | Result                              |                          |                                     | Note  |
|--------------|---------------------------|-------------------------------------|--------------------------|-------------------------------------|---|
|              |                           | Pass                                | Fail                     | N/A                                 |   |
| North Bridge | Primary IGFX Boot Display | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | CRT / HDMI(DP)  |
|              | Memory information        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |   |
|              | LVDS enable/disable       | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |   |
|              | LVDS Panel type           | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 48bit: 1920*1200; 1920*1080; 1600*1200; 1280*1024;1440*900<br>24bit: 1366*768;1280*768;1024*768<br>18bit:640*480;800*480;800*600;1024*600; 1024*768 |
|              | Color Depth               | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 18/24 bit   |
|              | Panel mode                | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Single / Dual channel   |
|              | Backlight Level           | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 0~100%,   |
|              | Backlight Invert          | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Normal/inverted   |
| South Bridge | Audio controller          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |   |
|              | Mini-car1 speed (CN15)    | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |   |
|              | Mini-car1 speed (CN17)    | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |   |



## 7.3. Boot Test

| Test Item            | Result                              |                          |                          | Note           |
|----------------------|-------------------------------------|--------------------------|--------------------------|----------------|
|                      | Pass                                | Fail                     | N/A                      |                |
| Quiet Boot           | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Enable/disable |
| Launch PXE OpROM     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                |
| Boot From Hard Disk  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                |
| Boot From CDROM      | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                |
| Boot From USB HDD    | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                |
| Boot From USB Floppy | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                |
| Boot From USB CD-ROM | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                |
| Boot from LAN        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                |
| Disable              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                |

## 7.4. CMOS Backup / Clear CMOS Test

| Test Item                         | Result                              |                          |                          | Note                                     |
|-----------------------------------|-------------------------------------|--------------------------|--------------------------|--|
|                                   | Pass                                | Fail                     | N/A                      |  |
| CMOS Backup <remove 3.3V battery> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Clear data setting, date, time, password |
| Clear CMOS Test<Jumper clear>     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Clear data setting, date, time, password |

## 7.5. AAEON Tag Check Utility

| Test Item           | Result                              |                          |                          | Note         |
|---------------------|-------------------------------------|--------------------------|--------------------------|--------------|
|                     | Pass                                | Fail                     | N/A                      |              |
| Check AAEON BIOS OK | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | AONCHECK.EXE |

## 7.6. Supervisor / User Password Test

| Test Item              | Result                              |                          |                          | Note |
|------------------------|-------------------------------------|--------------------------|--------------------------|------|
|                        | Pass                                | Fail                     | N/A                      |      |
| Administrator Password | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |
| User Password          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |

## 7.7. Hi-safe Test

| Test Item          | Result                              |                                     |                          | Note                                |                      |
|--------------------|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|----------------------|
|                    | Pass                                | Fail                                | N/A                      |                                     |                      |
| Version(20151228)  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | Boxer-6313<br>B313A                 |                      |
| System Information | CPU Information                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                      |
|                    | Model Name                          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                      |
|                    | Display Information                 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                      |
|                    | RAM Information                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Support single DIMM  |
| H/W Monitor        | Info                                | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                      |
|                    | Fan Speed                           | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                      |
|                    | Temperature                         | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                      |
|                    | Voltage                             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                      |
| DIO                | DIO1~4 High                         | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                      |
|                    | DIO1~4 Low                          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                      |
|                    | DIO5~8 High                         | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                      |
|                    | DIO5~8 Low                          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                      |
| WatchDog           | 10sec                               | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Actual 10.13 sec     |
|                    | 1min                                | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Actual 60.5sec       |
|                    | 255sec                              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Actual 256sec        |
|                    | Auto Reload                         | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |                      |
| SMBus              | SMBus IO                            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | SMBus Address 0xE000 |

|  |               |                                     |                          |                          |                   |
|--|---------------|-------------------------------------|--------------------------|--------------------------|-------------------|
|  | Read Byte     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Slave Address A0h |
|  | Read Word     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                   |
|  | Result / Read | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                   |

## 7.8. Negative Test

### 7.8.1 USB Keyboard Negative Test

| Methods   | Result                              |                          |                          | Note |
|---|-------------------------------------|--------------------------|--------------------------|------|
|   | Pass                                | Fail                     | N/A                      |      |
| 1. Boot into BIOS setup manual.<br>2. Press NumLock or ScrLk and press arrow key.<br>3. confirm arrow key function are normally | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |

### 7.8.2 Suspend S3 Negative Test

| Methods  |                        | Result                   |                          |                                     | Note                            |
|--|------------------------|--------------------------|--------------------------|-------------------------------------|---------------------------------|
|  |                        | Pass                     | Fail                     | N/A                                 |                                 |
| 1. Resume from S3.<br>2. Confirm com ports(RS232/422/485), DIO, smartfan, LVDS backlight control, USB ports can work properly. | RS232/422/485          | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | System was not support S3 mode. |
|  | DIO                    | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                                 |
|  | SmartFan               | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                                 |
|  | LVDS Backlight control | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                                 |
|  | USB ports              | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                                 |

### 7.8.3 UEFI Mode Negative Test

| Methods  | Result                              |                          |                          | Note |
|--|-------------------------------------|--------------------------|--------------------------|------|
|  | Pass                                | Fail                     | N/A                      |      |
| 1. Install Windows with UEFI mode.<br>2. Clear CMOS.<br>3. Confirm BIOS\Boot device was not loss "Windows boot manager" and should boot into Windows properly. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |      |

## 8. Performance Test

| Configuration |   |
|---------------|---|
| CPU           | Intel® Celeron® Processor J1900 (2M Cache, up to 2.42 GHz)<br>Intel® Atom™ Processor E3845 (2M Cache, 1.91 GHz) |
| Memory        | Innosidk 8GB DDR3L 1600 M3SW-8GPSDD0C-A26   |
| SATA HDD      | Toshiba MK1060GSC 2.5" 100GB  |
| O.S           | Windows7 Ultimate SP1 English version 32bit   |

### 8.1. System Performance Test

Test Result: (Display set 1920\*1080 test)

| Testing Software      | Scope |       |   | Note            |
|-----------------------|-------|-------|---|-----------------|
|                       | E3845 | J1900 | - |                 |
| <b>PCMark2005</b>     |       |       |   | Windows 7_32bit |
| PCMark                | 3789  | N/A   | - | PCMarks         |
| CPU                   | 3874  | 4905  | - |                 |
| Memory                | 3158  | 3616  | - |                 |
| Graphics              | 2587  | 2815  | - |                 |
| HDD                   | 3543  | 3608  | - |                 |
| <b>PCMark Vantage</b> |       |       |   | PCMarks         |
| PCMark                | 3388  | 3337  | - |                 |
| Memories              | 2018  | 2252  | - |                 |
| TV and Movies         | 2538  | 2729  | - |                 |
| Gaming                | 2394  | 2561  | - |                 |
| Music                 | 2912  | 3359  | - |                 |
| Communications        | 3922  | 3212  | - |                 |
| Productivity          | 2356  | 2658  | - |                 |
| HDD                   | 2093  | 2071  | - |                 |
| Benchmark (B)         | -     | -     | - |                 |
| Average Efficiency    | -     | -     | - |                 |

| Testing Software | Scope |       |   | Note |
|------------------|-------|-------|---|------|
|                  | E3845 | J1900 | - |      |
| <b>CPUMark99</b> |       |       |   |      |
| CPU mark99       | 161   | 206   | - |      |

| Testing Software       | Scope |       |   | Note |
|------------------------|-------|-------|---|------|
|                        | E3845 | J1900 | - |      |
| <b>3Dmark2006 v121</b> |       |       |   |      |
| 3Dmark Score           | 1560  | 1626  | - |      |
| SM2.0 Score            | 546   | 559   | - |      |
| HDR/SM3.0 Score        | 571   | 594   | - |      |
| CPU Score              | 1866  | 2346  | - |      |
| Benchmark (B)          | -     | -     | - |      |
| Average Efficiency     | -     | -     | - |      |

| 3Dmark11 Professional Edition |      |      |   | Windows 7_32bit |
|-------------------------------|------|------|---|-----------------|
| Performance 1280*720          |      |      |   |                 |
| 3Dmark 11Score                | P245 | P266 | - |                 |
| Graphics Score                | 210  | 227  | - |                 |
| Physics Score                 | 1432 | 1700 | - |                 |
| Combined Score                | 255  | 277  | - |                 |

| Testing Software     | Scope  |        |   | Note |
|----------------------|--------|--------|---|------|
|                      | E3845  | J1900  | - |      |
| Performance Test 7.0 |        |        |   |      |
| PassMark Rating      | 507.7  | 575.2  | - |      |
| CPU Mark             | 1241.8 | 1554.1 | - |      |
| 2D Graphics Mark     | 156.2  | 184.7  | - |      |
| 3D Graphics Mark     | 146.1  | 151.6  | - |      |
| Memory Mark          | 394.0  | 477.5  | - |      |
| Disk Mark            | 364.2  | 333.9  | - |      |

## 8.2. Storage Performance Test

| SATA Performance |  |                              |           |      |
|------------------|--|------------------------------|-----------|------|
| SATA HDD         | Toshiba MK1060GSC 2.5" 100GB   |                              |           |      |
| CPU              | Intel® Atom™ Processor E3845 (2M Cache, 1.91 GHz)                      |                              |           |      |
| Memory           | Innosidk 8GB DDR3L 1600 M3SW-8GPSDD0C-A26                              |                              |           |      |
| OS               | Window7 Ultimate SP1 32bit   |                              |           |      |
| Item             | Comment / (unit)   | Software                     | Score     | Note |
| SATA 6G1         | Long bench(32mb zones)-Random access / (ms) (smaller is better)        | HD Tach version 3.0.4.0 free | 33.6ms    |      |
|                  | Long bench(32mb zones)-CPU utilization / (%,+/-2%) (smaller is better) | HD Tach version 3.0.4.0 free | 0%        |      |
|                  | Long bench(32mb zones)-Average read / (MB/s)                           | HD Tach version 3.0.4.0 free | 45.3MB/s  |      |
|                  | Long bench(32mb zones)-Burst Speed / (MB/s)                            | HD Tach version 3.0.4.0 free | 121.7MB/s |      |

| USB Performance |                               |                     |                      |      |
|-----------------|-------------------------------|---------------------|----------------------|------|
| USB Flash       | KingSton Ultimate 16GB USB3.0 |                     |                      |      |
| Item            | Comment / (unit)              | Software            | Transfer Rate (MB/s) | Note |
| USB3.0          | Maximum Read                  | ATTO Disk Benchmark | 114MB/s              |      |
|                 | Maximum Write                 | ATTO Disk Benchmark | 61MB/s               |      |
| USB2.0 1/2      | Maximum Read                  | ATTO Disk Benchmark | 37MB/s               |      |
|                 | Maximum Write                 | ATTO Disk Benchmark | 31MB/s               |      |
| USB2.0 3        | Maximum Read                  | ATTO Disk Benchmark | 39MB/s               |      |
|                 | Maximum Write                 | ATTO Disk Benchmark | 33MB/s               |      |

| mSATA Performance |                     |                     |                      |      |
|-------------------|---------------------|---------------------|----------------------|------|
| mSATA             | Innodisk D150Q 32GB |                     |                      |      |
| Item              | Comment / (unit)    | Software            | Transfer Rate (MB/s) | Note |
| mSATA             | Maximum Read        | ATTO Disk Benchmark | 132MB/s              |      |
|                   | Maximum Write       | ATTO Disk Benchmark | 118MB/s              |      |

## 9. Stability test

### 9.1. Run In Test

Under Room Temperature: 26 °C

OS: Windows 8.1 Enterprise English 64bit

| Test Item   |          | Result                              |                                     |                                     | Note                     |
|---|----------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|
|   |          | Pass                                | Fail                                | N/A                                 |                          |
| Burn In Test V8.0( 1041 )<br>Duty: 100<br>Time: over 12 hours<br><br><System should not error<br>or hang during testing.> | CPU      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |                          |
|   | RAM      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |                          |
|   | COM      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | COM1~4                   |
|   | Video    | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |                          |
|   | 2D       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |                          |
|   | 3D       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |                          |
|   | Disk     | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |                          |
|   | Sound    | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |                          |
|   | Network  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |                          |
|   | Parallel | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                          |
|   | USB      | 2.0                                 | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| 3.0   |          | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | X1                       |

Note: COM PORT Speed Set to 115200.

### 9.2. Reboot Test

Under Room Temperature: 26 °C

OS: Windows 8.1 Enterprise English 64bit

Test Tool: Passmark rebooter.exe

CPU: E3845

| Test item   | Result                              |                          |                          | Note         |
|---|-------------------------------------|--------------------------|--------------------------|--------------|
|   | Pass                                | Fail                     | N/A                      |              |
| Reboot test for 1000 cycles<br><System should not error or hang during<br>testing.> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | E3845 passed |

### 9.3. Cold Boot Test

Under Room Temperature: 26 °C

OS: DOS

| Test item  | Result                              |                          |                          | Note  |
|--|-------------------------------------|--------------------------|--------------------------|---|
|  | Pass                                | Fail                     | N/A                      |   |
| AC loss cold boot over 1000 cycles<br><loss rate: 0 /1000 times> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Jumper setting auto power button<br>or BIOS select " power on"<br>Test with E3845 |
| On/off test which use ACC button over<br>1000 cycles             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Test with E3845   |

# 10. Front Panel Button and Mechanical Check

## 10.1. Mechanical Check

| Test Item                          | Result                              |                          |                                     | Note |
|------------------------------------|-------------------------------------|--------------------------|-------------------------------------|------|
|                                    | Pass                                | Fail                     | N/A                                 |      |
| System Case construction check     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |      |
| CF/CFast slot construction check   | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |      |
| Expansion slots construction check | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |      |
| I/O symbol check                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |      |