

# BOXER-6301VS

## Embedded Vehicle Controller

### Compatibility Test Report

Summary	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail <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

05/27/2015

Approval

KJ Wang

Test Engineer

Louie Lee

**Version Released Records**

Date	Version	Change History	Note
2010/04/21	P3-1001	1. Re-composing test Items	
2010/06/01	P2P3-1001	1. New Test Report	
2010/06/21	P2P3-1002	1. Add BIOS -> SPI ROM Setting (South Bridge - GPIO)	
2010/12/02	P2P2-1003	1. New Test Report	
2011/02/23	P2P3-1101	1. Re-composing test Items	
2011/03/04	P2P3-1102	1. Add Specification Validation	

**Note :**

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

- 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 would be updated when re-test completed in next version of the product.**

## Specification Validation

### Main Specification

Item	Specification	Result			Note
		Pass	Fail	N/A	
Product Name	Boxer-6301VS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CPU Board	GENE-QM87	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Processor	Intel Core i5-4402E, 1.6GHz Processor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
System Memory	DDR3 SODIMM x 1, supports DDR3L 1333/1600, Max. 8GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Display Interface	DB-15 x 1 for VGA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Storage	CFast x 1 on M/B Easy access 2.5" SATA HDD bay x 2 Easy access SIM x slot x 3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Rear I/O panel	USB 2.0 x 2 USB 3.0 x 2 RJ-45 x 2 (onboard GbE LAN) DB9 x3 (RS-232 x 2, RS-232/422/485 x 1) POE x4 (802.11af) 3-pin terminal block Power input x 1 (ACC, V-, V+) VGA x 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Front I/O panel	Line-out x 1 Mic-in x 1 Power ON/OFF Switch x 1, System Power LED x 1 (Yellow or Orange), HDD Active LED x 1 (green) SMA Antenna hole x 6 SIM slots x 2 2.5" HDD lockable Tray x 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Expansion	Full-size Mini-card x 3 ( 1 on M/B & 2 on I/O board ) SIM slot x3 ( 1 on M/B & 2 on I/O board)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### O.S. Support

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

### Environmental Specifications

Item	Specification
Operating temperature	14°F ~ 122°F (-10°C ~ 50°C) with Airflow
Storage temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage humidity	5 ~ 90% @ 40C, non-condensing
Vibration	1g rms / 5~ 500Hz / operation – HDD
Shock	15G peak acceleration (11 msec. duration)–HDD
EMC	CE & FCC Class A
Vehicle certification	ISO-7636 and e-13 compliant

**Note:** Please refer to Environment Test Report for detail information

## Platform Information

Item	Device Information	Test Item
System Model / Version	Boxer-6301VS A1.0	
PCB Model / Version	GENE-QM87 Rev.A1.0	
BIOS / Version	BOXER-6301VS R1.0(B301AM10) (03/18/2015)	
Driver Folder	\\nas3\SAP-BETA\Products\BOXER-6301VS	
CPU Type	Intel® Core™ i5-4402E Processor (3M Cache, up to 2.70 GHz)	
Memory Type	DSL DDR3L 1600 4GB Hynix H5TC4G83AFR Transcend DDR3L 1600/8GB SODIMM SEC K4B4G0846B Transcend DDR3L 1600 8GB SEC K4B4G0846D	
SATA HDD	Toshiba 2.5" 100GGB (MK1060GSC) Toshiba 2.5" 320GB MQ01ABF032	
SATA DVD-ROM	N/A	
USB DVD-ROM	ASUS SDRW-08D2S-U/DBLK/G/AS	
LCD Monitor	Dell U2713HM	
LVDS	N/A	
Operating System	<input checked="" type="checkbox"/> Ubuntu 12.04 Kernel 3.2.0 -23 -generic-pae #36-ubuntu	
	<input checked="" type="checkbox"/> Windows 7 Ultimate 32/64Bit	
	<input checked="" type="checkbox"/> Windows 8.1 Enterprise English Version 32Bit/64Bit	
Power Supply	DC Adapter : FSP FSP180-AAAN1 24V DC in	
<b>Chipset Information with Windows 7 Ultimate English Version 32Bit Driver Version</b>		
Chipset Software	Intel® Chipset Device Software: 9.4.0.1016(2013/01/11)	
PCH Bridge	Intel® QM87	
Super IO Chipset	F81866G	
VGA Chipset	Intel® HD Graphics 4600: 10.18.10.3993(2014/10/28)	
Audio Chipset	Realtek High Definition Audio: 6.0.1.6526(2011/12/13)	
Ethernet Chipset	Intel® Ethernet Connection I217-LM: 12.5.19.0(2013/1/23)	
	Intel® I211 Gigabit Network Connection: 12.4.36.0(2012/11/15)	
POE LAN	Realtek USB FE Family Controller 7.11.106.2014 (1/6/2014)	

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# 1. Hardware Test

## 1.1. CPU Compatibility Test

CPU Information	Result			Note
	Pass	Fail	N/A	
Intel® Core™ i5-4402E Processor(3M Cache, up to 2.70 GHz)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 1.2. Memory Compatibility Test

Memory Information	MEM V5.01			Note
	Pass	Fail	N/A	
Transcend DDR3L 1600/8GB SODIMM SEC K4B4G0846B	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DSL DDR3L 1600 4GB Hynix H5TC4G83AFR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transcend DDR3L 1600 8GB SEC K4B4G0846D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DSL DDR3 1333/4GB CL9 hynix H5TQ2G83BFR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DSL DDR3 1333/2GB CL9 hynix H5TQ2G83BFR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 1.3. SATA Compatibility Test

### 1.3.1 Onboard SATA (IDE mode) Test

SATA Device Information	Result			Note
	Pass	Fail	N/A	
TOSHIBA 2.5" 100GGB (MK1060GSC)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 1.3.2 Onboard SATA (AHCI) Test

SATA AHCI Test	Result			Note
	Pass	Fail	N/A	
TOSHIBA 2.5" 100GGB (MK1060GSC)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Toshiba 2.5" 320GB MQ01ABF032	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SSD ADATA SX900 128GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
WD WD5000LPVX 2.5" 500GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Toshiba MK1676GSX / 160GB 2.5" SATA HD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Seagate MKST9120823AS / 120GB 2.5" SATA HD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 1.3.2 Onboard SATA (RAID) Test

SATA RAID0 Test	Result			Note
	Pass	Fail	N/A	
WD WD5000LPVX 2.5" 500GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
WD WD5000LPVX 2.5" 500GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SATA RAID1 Test	Result			Note
	Pass	Fail	N/A	
WD WD5000LPVX 2.5" 500GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
WD WD5000LPVX 2.5" 500GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 1.4. CFast Compatibility Test

CFast Device Information	Result			Note
	Pass	Fail	N/A	
Innodisk 3ME CFast 8GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Innodisk 3ME CFast 16GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Max read: 253MB/s Max write:42MB/s

## 2. Basic Function Test

### 2.1. Video Function Test

#### 2.1.1. Single Output Function Test

Hardware Information with Windows 7 Ultimate English SP1 32 Bit Driver Version										
CPU	Intel® Core™ i5-4402E Processor(3M Cache, up to 2.70 GHz)									
Memory	Transcend DDR3L 1600 8GB SEC K4B4G0846D									
HDD	TOSHIBA MQ01ABF032 2.5" 320GB									
VGA	Dell 2410U									
DVI	N/A									
HDMI	N/A									
Color Quality	<input checked="" type="checkbox"/> 16bit <input type="checkbox"/> 24bit <input checked="" type="checkbox"/> 32bit									
Resolution	VGA			DVI			HDMI			Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
800X600	<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"/>	
1024X768	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X600	<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"/>	
1280X720	<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"/>	
1280X768	<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 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 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 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1366X768	<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"/>	
1368X768	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1440X900	<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 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 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 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 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"/>	
Rotation	<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 with Full Screen under POST screen and Text Mode.

### 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 the system is booting to Windows then check VGA driver and display
3. Check brightness level and screen behavior of the monitor connected VGA output. The phenomena, normal "Ghost Image" or "Flicker" should be watched carefully.

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







### 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"/>	
Mic Channel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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	Accton Desktop-3005									
10MBps LAN HUB	SVEC FD916H									
OnBoard LAN1	Intel® Ethernet Connection I217-LM						MAC Address	00-E0-5C-77-B0-04		
OnBoard LAN2	Intel® I211 Gigabit Network Connection						MAC Address	00-07-32-2A-D4-04		
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"/>	Not support	
LAN Boot (PXE)			<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Not support	
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 13
<input type="checkbox"/>	Cent 5.5
<input checked="" type="checkbox"/>	Ubuntu 12.04 Kernel 2.6.35-22
<input type="checkbox"/>	Red Hat

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

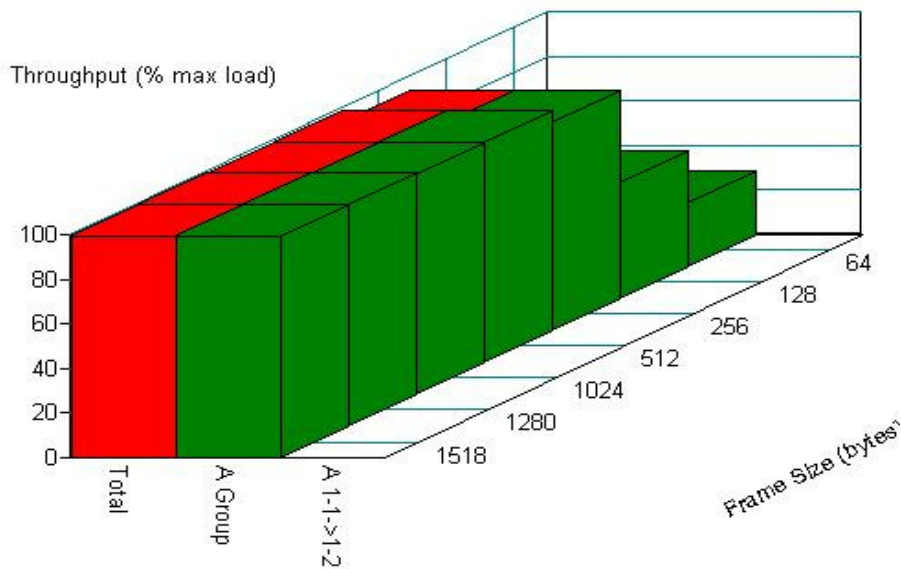
Graphics Media	Ubuntu Default setting
LAN	LAN1→ Intel® I211 Gigabit Network Connection
	LAN2→ Intel® Ethernet Connection I217-LM
	LAN3→ Realtek.RTL8152B-CG
Audio Driver	Ubuntu Default setting

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:

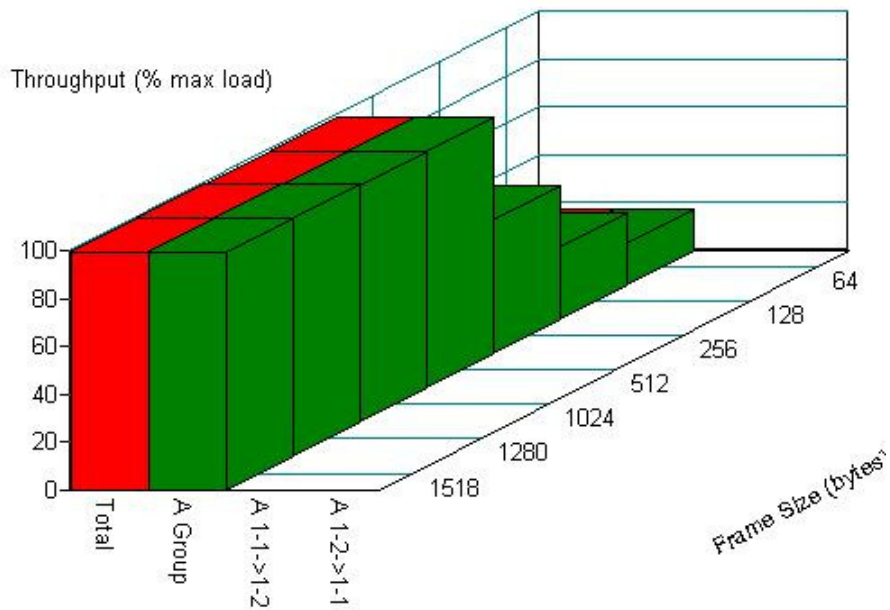
- Half Direction (LAN1: Intel® I211 Gigabit Network Connection 10/100/1G Ethernet → LAN2: Intel® Ethernet Connection I217-LM 10/100/1G Ethernet)



Throughput vs Frame Size

<u>Name/Frame size</u>	<u>64</u>	<u>128</u>	<u>256</u>	<u>512</u>	<u>1024</u>	<u>1280</u>	<u>1518</u>
<b>Total</b>	28.0703125	51.2734375	93.0390625	98.453125	98.453125	99.2265625	99.2265625
<b>A Group</b>	28.0703125	51.2734375	93.0390625	98.453125	98.453125	99.2265625	99.2265625
<b>A 1-1-&gt;1-2</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A






2. Binary Direction (LAN1: Intel® I211 Gigabit Network Connection 10/100/1G Ethernet ↔ LAN2: Intel® Ethernet Connection I217-LM 10/100/1G Ethernet)



Throughput vs Frame Size

<u>Name/Framesize</u>	<u>64</u>	<u>128</u>	<u>256</u>	<u>512</u>	<u>1024</u>	<u>1280</u>	<u>1518</u>
<b>Total</b>	17.2421875	29.6171875	55.140625	98.453125	98.453125	99.2265625	99.2265625
<b>A Group</b>	17.2421875	29.6171875	55.140625	98.453125	98.453125	99.2265625	99.2265625
<b>A 1-1-&gt;1-2</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>A 1-2-&gt;1-1</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A

## 2.4. POE LAN Function Test

Connect two computers via different speed LAN HUB by using "Ping" instruction (1000 times)									
1000Mbps LAN HUB		D-Link DGS-1008D							
100Mbps LAN HUB		Accton Desktop-3005							
10Mbps LAN HUB		SVEC FD916H							
POE Camera		ETROVISION EV8581U-BL 2M Fixed dome Camera *2							
		ETROVISION EV8782Q-BD 3MP Bullet Camera *2							
POE LAN		Realtek.RTL8152B-CG				MAC Address			00-E0-5C-77-A0-04
Device	POE LED	Active LED	LAN			N/A			Note
			Pass	Fail	N/A	Pass	Fail	N/A	
1000Mbps Switch			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
100Mbps Switch			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
10Mbps HUB			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
POE camera			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>	Not support
LAN Boot (PXE)			<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Not support
Internet Browser (DHCP Server)			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
POE camera x4			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

### 3. Integration Test

Hardware Information with Windows 7 Ultimate English SP1 32 Bit Driver Version	
<b>CPU</b>	Intel® Core™ i5-4402E Processor(3M Cache, up to 2.70 GHz)
<b>Memory</b>	Transcend DDR3L 1600 8GB SEC K4B4G0846D
<b>HDD</b>	TOSHIBA MQ01ABF032 2.5" 320GB

#### 3.1. USB Port Integration Test

Item	USB Port	Boot			Function(Win 7)			Note
		Pass	Fail	N/A	Pass	Fail	N/A	
USB HDD		<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"/>	
Asus SDRW-08D2S-U USB2.0 DVD-R/W 8X		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Hub Test (Connect USB Device) HUB Port1: USB Keyboard / HUB Port2: USB Mouse / HUB Port3: USB HDD								
USB 2.0 HUB PowerSync / USB 2.0 4 Port HU-155					<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

#### 3.2. COM Port Integration 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"/>	Tested with Modem No support.
	+12V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test with Multimeter
	+5V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Test with Multimeter

#### 3.3. RS-422 / RS-485 Test

Test Item	Result			Note
	Pass	Fail	N/A	
RS-422 for COM2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Use loopback and WINSSD.exe to test RS-422 port in Windows
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The communication between the RS-422 ports of two boards is linked with one 1200M cable on Windows Terminal
RS-485 for COM2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Use ICP CON I-7044D D/IO Module in Windows(Support Auto flow control)
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The communication between the RS-485 ports of two boards is linked with one 1200M cable on Windows Terminal

#### 3.4. Burn In Test

Under Room Temperature: 26 °C

Test Item	Result			Note
	Pass	Fail	N/A	
Burn In Test V7.1 Pro	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Windows 7 Ultimate SP1 English Version 32Bit

Note: COM PORT Speed Set to 115200.

## 4. Application Test

### 4.1. PCI-Express Function Test

Onboard Mini PCI Express Card	Function Test			Note
	Pass	Fail	N/A	
AZUREWAVE WF-NB041H Mini PCIe b/g/n WiFi w/ Bluetooth Card(half card)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
AZUREWAVE WF-NB100H Mini PCIe b/g/n WiFi w/ Bluetooth Card(half card)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Mini PCIe SATA 2 Module(SATA Sil3132)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HUAWEI EM680 3G module (USB interface)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(SIM card)
Aether COM-ME232s2 serial port (PCI-E interface)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sierra Wireless AirPrime MC7304 4G module	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(SIM card)

USB to mini-card (support USB interface only)	Function Test			Note
	Pass	Fail	N/A	
Sierra Wireless AirPrime MC7304 4G module	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(SIM card)
HUAWEI EM680 3G module (USB interface)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(SIM card)

### 4.2. SSD Modules Compatibility Test

SSD HDD Compatibility Test:

Cable Type:  IDE  SATA2  MLC  SLC

Test Item	Result			Notes
	Pass	Fail	N/A	
Transcend SSD 16G - TS16GSSD25S	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ADATA SX900 128GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 5. Power Consumption Test

	Hardware Information with Windows 7 Ultimate English SP1 32 Bit Driver Version
CPU	Intel® Core™ i5-4402E Processor(3M Cache, up to 2.70 GHz)
Memory	Transcend DDR3L 1600 8GB SEC K4B4G0846D
HDD	TOSHIBA MQ01ABF032 2.5" 320GB

### 5.1. AT/ATX Power Consumption

Please refer to the "Power Supply Electronics Test Report".

### 5.2PC Health Status

Test Point: The value between Actual Voltage and Voltage Monitor must be + /- 5%

Voltage Monitoring Test	Result			In Bios(V)	Note
	Pass	Fail	N/A		
CPU temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	62°C	
System temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	44°C	
System temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	45°C	
Vcore	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.752	
V12V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.750	
V5V	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.059	
Vdimm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.351	
VBAT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.235	

## 6. Time Accuracy Test

### 6.1. System Clock & RTC Clock Test

Under Room Temperature: 26 °C

Item Function	Time Interval	Criteria	Actual		Result			Note
					Pass	Fail	N/A	
RTC Clock in Power On Mode	24 hrs	+/-2 sec	+2	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
RTC Clock in Power Off Mode	24 hrs	+/-2 sec	+1	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 6.2. Booting Timer Test

Installation	Actual		Note
System Booting Time	5.1	Sec	Period for "Beep" starts to Sound after pressing Power Button.

### 6.3. Watchdog Timer Test

Use Function as below: Hi-Safe1222

[ ] No Support.

Time-Out Interval	Criteria	Actual		Result			Note
				Pass	Fail	N/A	
10 sec	+/-10%	10.2	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%	255.4	Sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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

## 7. O.S. Compatibility Test

### 7.1. English Ubuntu 12.04 Kernel 3.2.0 -23 –generic-pae #36-Ubuntu

[ ] No Support

Driver Information:

Chipset Software	System default
Graphics Media	System default
Audio Driver	System default
LAN Driver	Intel e1000e-2.2.14 Intel igb-4.1.2

Install OS to SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
Ubuntu 12.04 Kernel 3.2.0 -23 –generic-pae #36-ubuntu	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Type uname -a

Test Result:

Test Item	Result			Note
	Pass	Fail	N/A	
<b>Display Function Test</b>				
VGA -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Network Function Test</b>				
Connect to Internet – LAN 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connect to Internet – LAN 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connect to Internet – LAN 3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	POE LAN
<b>Audio Function Test</b>				
Play Audio Function Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Play Audio Test
<b>Base Function Test</b>				
Mouse Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Keyboard Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
CD-ROM Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>X Windows Application</b>				
Start Button Office	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Office function
X-Window	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Startx – Desktop in Linux
<b>Command Test On Text Mode: Attention Delay Phenomenon</b>				
uname -a	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Show information
Shutdown	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Init 0 or shutdown -h now
Restart the Computer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Init 6 or shutdown -r now
ls / clear .....; cd /dev /ls -l	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Command instruction



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

[ X ] x32 Driver Information:

Chipset Software	Intel® Chipset Device Software: 9.4.0.1016(2013/01/11)
Graphics Media	Intel® HD Graphics 4600: 10.18.10.3993(2014/10/28)
Audio Driver	Realtek High Definition Audio: 6.0.1.6526(2011/12/13)
LAN Driver	Intel® Ethernet Connection I217-LM: 12.5.19.0(2013/1/23)
	Intel® I211 Gigabit Network Connection: 12.4.36.0(2012/11/15)
POE LAN	Realtek USB FE Family Controller 7.11.106.2014 (1/6/2014)

[ X ] x64 Driver Information:

Chipset Software	Intel® Chipset Device Software: 9.4.0.1016(2013/01/11)
Graphics Media	Intel® HD Graphics 4600: 10.18.10.3993(2014/10/28)
Audio Driver	Realtek High Definition Audio: 6.0.1.6526(2011/12/13)
LAN Driver	Intel® Ethernet Connection I217-LM: 12.5.19.0(2013/1/23)
	Intel® I211 Gigabit Network Connection: 12.4.36.0(2012/11/15)
POE LAN	Realtek USB FE Family Controller 7.11.106.2014 (1/6/2014)

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"/>	AHCI mode 32bit RAID1 Mode 64bit

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
<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>				
USB Mouse and Keyboard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
COM Port Mouse	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB 2.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*2
USB 3.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	*2
<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"/>	
POE LAN – 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"/>	
MIC in	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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"/>	Press power button 2 sec to wake system
Restart	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hibernate (S4)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Press power button 2 sec to wake system

### 7.3. Windows 8.1 Enterprise English Version 32Bit/64bit

[ X ] x32 Driver Information:

Chipset Software	Intel® Chipset Device Software: 9.4.0.1026(08/05/2013)
Graphics Media	Intel® HD Graphics 4600: 10.18.10.3993(10/28/2014)
Audio Driver	Realtek High Definition Audio: 6.0.1.6526(12/13/2011)
LAN Driver	Intel® Ethernet Connection I217-LM: 12.11.96.1(3/14/2014)
	Intel® I211 Gigabit Network Connection: 12.11.97.0(03/11/2014)
POE LAN	Realtek USB FE Family Controller 8.13.106.2014 (1/6/2014)

[ X ] x64 Driver Information:

Chipset Software	Intel® Chipset Device Software: 9.4.0.1026(08/05/2013)
Graphics Media	Intel® HD Graphics 4600: 10.18.10.3993(10/28/2014)
Audio Driver	Realtek High Definition Audio: 6.0.1.6526(12/13/2011)
LAN Driver	Intel® Ethernet Connection I217-LM: 12.11.96.1(3/14/2014)
	Intel® I211 Gigabit Network Connection: 12.11.97.0(03/11/2014)
POE LAN	Realtek USB FE Family Controller 8.13.106.2014 (1/6/2014)

Install OS to SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
Windows 8.1 Enterprise English ACPI Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AHCI mode 32bit RAID0 Mode 64bit

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"/>	
<b>Boot - Windows 8 Pro Advanced Options Menu</b>				
Safe Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Basic Function Test</b>				
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"/>	
USB 2.0 Removable Devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
USB 3.0 Removable Devices	<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"/>	
POE LAN - 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"/>	
MIC in	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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"/>	

## 8. BIOS Function Test

Hardware Information with Windows 7 Ultimate English SP1 32 Bit Driver Version	
CPU	Intel® Core™ i5-4402E Processor(3M Cache, up to 2.70 GHz)
Memory	Transcend DDR3L 1600 8GB SEC K4B4G0846D
HDD	TOSHIBA MQ01ABF032 2.5" 320GB

### 8.1. Advanced Test

Test Item	Result			Note		
	Pass	Fail	N/A			
ACPI settings	Suspend Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	Sleeps state (S3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
S5 RTC Wake Settings		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
CPU configuration	Hyper-threading	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable	
	Turbo Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
SATA configuration	SATA controller	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable	
	AHCI mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	IDE mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	RAID mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
AMT Configuration	Intel AMT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable	
	Un-configure ME	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Super IO configuration	Serial port 1~3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enable/Disable	
	COM2	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"/>	
USB Configuration	Legacy USB support	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	USB3.0 support	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

### 8.2. Chipset Test

Test Item	Result			Note	
	Pass	Fail	N/A		
PCH-IO configuration	Power Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ATX/AT
	Restore AC Power Loss	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
System Agent (SA) Configuration	Graphics Configuration	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 8.3. Boot Test

Test Item	Result			Note
	Pass	Fail	N/A	
Quiet Boot	<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 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Disable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

### 8.4. 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

## 8.5. 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"/>	

## 8.6. CMOS Backup / Clear CMOS Test

Test Item	Result			Note
	Pass	Fail	N/A	
CMOS Backup	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Clear CMOS Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## 8.7. Hi-safe Test

Test Item	Result			Note	
	Pass	Fail	N/A		
Version(20141222)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	B301A	
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"/>	
H/W Monitor	Info	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Fan Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Temperature	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Voltage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
WatchDog	10sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actual 10.02 sec
	1min	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actual 60.3sec
	255sec	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Actual 270sec
	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 0xF040
	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"/>	

## 8.8. Hi-Manager Test

Test Item	Result			Note	
	Pass	Fail	N/A		
Version(20130819)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Power control	Power on	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Reset	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Power on from G3 state	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Group Management	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Event log	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Alarm Clock	Set Alarm Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Recurring Alarm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Remote Recovery	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Remote Reboot/ Reboot from CD ROM/Reboot from ISO (Reboot to BIOS no support)	
KVM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Schedule	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

## 9. Performance Test

Hardware Information with Windows 7 Ultimate English Version 32Bit Driver Version	
CPU	Intel® Core™ i5-4402E Processor(3M Cache, up to 2.70 GHz)
Memory	Transcend DDR3L 1600 8GB SEC K4B4G0846D
HDD	TOSHIBA MQ01ABF032 2.5" 320GB

### 9.1. Performance Test

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

Testing Software	Scope		Note
	AAEON	Ref.	
<b>CPU Mark99</b>			
Scores	468	-	
<b>PCMark2005</b>			
PCMark	7967	-	PCMarks
CPU	8915	-	
Memory	8894	-	
Graphics	6409	-	
HDD	5271	-	
Benchmark (B)	-	-	
Average Efficiency	-	-	
<b>PCMark Vantage</b>			
PCMark	6203	-	PCMarks
Memories	3658	-	
TV and movies	3688	-	
Gaming	4139	-	
Music	4936	-	
Communications	8660	-	
Productivity	5161	-	
HDD	2983	-	
Benchmark (B)	-	-	
Average Efficiency	-	-	

Testing Software	Scope		Note
	AAEON	Ref.	
<b>3Dmark2006 v120</b>			
3Dmark Score	3381	-	Select All(2048*1152)
SM2.0	1154	-	
HDR/SM3.0	1290	-	
CPU Score	3420	-	
<b>3Dmark 11</b>			
3Dmark Score	P780	-	Select All(720p)
Graphics Score	685	-	
Physics Score	3080	-	
Combined Score	727	-	

Testing Software	Scope		Note
	AAEON	Ref.	
<b>Final Reality V1.01—BenchMark Test</b>			
2D image	67.35	-	Reality marks
3D	4.96	-	
Bus transfer	63.28	-	
Overall	32.42	-	
Benchmark (A)	-	-	

Testing Software	Scope		Note
	AAEON	Ref.	
<b>Performance7</b>			
PassMark Rating	1162.6	-	
CPU Mark	3161.8	-	
2D Graphics Mark	330.3	-	
3D Graphics Mark	368.6	-	
Memory Mark	980.2	-	
Disk Mark	637.5	-	

Testing Software	Scope		Note
	AAEON	Ref.	
<b>Windows experience index</b>			
Processor	7.0	-	
Memory	7.2	-	
Graphics	5.1	-	
Gaming graphics	6.5	-	
Primary hard disk	5.9	-	

SATA Performance				
SATA HDD	SSD ADATA SX900 128GB			
CPU	Intel® Core™ i5-4402E Processor(3M Cache, up to 2.70 GHz)			
Memory	DSL DDR3L 1600 4GB Hynix H5TC4G83AFR			
OS	Windows 7 Ultimate SP1 English Version 32 Bit			
Item	Comment / (unit)	Software	Score	Note
SATA port1	Maximum Read	ATTO Disk Benchmark	555MB/s	
	Maximum Write	ATTO Disk Benchmark	521MB/s	
SATA port2	Maximum Read	ATTO Disk Benchmark	555MB/s	
	Maximum Write	ATTO Disk Benchmark	521MB/s	

**USB2.0/3.0 Performance**

USB Flash		KingSton Ultimate G2 USB3.0 16GB		
Item	Comment / (unit)	Software	Transfer Rate (MB/s)	Note
USB3.0 1/2	Maximum Read	ATTO Disk Benchmark	124MB/s	
	Maximum Write	ATTO Disk Benchmark	73MB/s	
USB2.0 1/2	Maximum Read	ATTO Disk Benchmark	40MB/s	
	Maximum Write	ATTO Disk Benchmark	36MB/s	

**CFast Performance**

CFast		Innodisk 3ME 8GB		
Item	Comment / (unit)	Software	Transfer Rate (MB/s)	Note
CFast	Maximum Read	ATTO Disk Benchmark	130MB/s	
	Maximum Write	ATTO Disk Benchmark	20MB/s	