Report NO: 16I010002

FWS-2260

INTEL Braswell SoC
6 LANs Network appliance

System Level Product
P5 Test Report Template

Summary	☒ Pass ☐ Fail ☐ 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	Approval	Test Engineer
2016/01/29	KJ Wang	Danny Chen

Specification Validation

Main Specification

Item	Specification	Result			Note
		Pass	Fail	N/A	
Product Name	FWS-2260	☒	☐	☐	
Form Factor	Desktop 6-ports Network Appliance	☒	☐	☐	
Processor	Onboard INTEL ATOM Braswell SoC	☒	☐	☐	
System Memory	2 x 204-pin DDR3(L) 1333/1600MHz SODIMM up to 8GB	☒	☐	☐	
Graphic Controller	Intel Integrated	☒	☐	☐	
Ethernet	INTEL i211 (Co-lay with INTEL i210), 6 x Gigabit Ethernet (3 LAN expansion by PCIe bridge)	☒	☐	☐	
Bypass	Support 2 Pairs	☒	☐	☐	
BIOS	AMI BIOS ROM	☒	☐	☐	
Serial ATA	1 x SATA3.0 port on board	☒	☐	☐	
Serial Port	1 x RJ-45 Console	☒	☐	☐	
Keyboard and Mouse	PS/2 Pin-header (Optional)	☒	☐	☐	
Universal Serial Bus	2 x USB 3.0 Type A on I/O side	☒	☐	☐	
Expansion Interface	2 x Mini-card slots (with 2 x SIM Sockets) via USB signal	☒	☐	☐	
RTC	Internal RTC	☒	☐	☐	
Watchdog Timer	1~255 step by software programmable	☒	☐	☐	
Storage	1 x CFast socket (Optional CF socket or mSATA slot)	☒	☐	☐	
GPIO	8bits, BIOS default 4 bits input, 4bits output.	☒	☐	☐	
Power Requirement	1 x 12V DC power in connector / 40W Power Adapter 4-pin DC power out connector for HDD (optional)	☒	☐	☐	
Operation Temp.	32°F ~ 120°F (0°C ~ 50°C)	☒	☐	☐	
Certification	CE / FCC Class A	☒	☐	☐	
Chassis Dimension (WxDxH)	260mm x 178mm x 44mm	☒	☐	☐	
Rear panel	1 x HDMI (Optional) 2 x USB 3.0 Ports 6 x RJ-45 Ports 1 x RJ-45 Console 1 x 12V DC Power Input 1 x Software Reset Switch 1 x Power Button	☒	☐	☐	
Front panel	1 x Power LED 1 x Status LED 1 x HDD Active LED 12 x LAN LEDs 2 x Bypass LEDs	☒	☐	☐	

O.S. Support

Item	Specification	Result			Note
		Pass	Fail	N/A	
Microsoft Windows	Windows 7 English 32bit	☐	☐	☒	
	Windows 7 English 64bit	☐	☐	☒	
	Windows 8.1 English 32bit	☐	☐	☒	
	Windows 8.1 English 64bit	☒	☐	☐	
Linux	Yocto* Tool based Embedded Linux	☒	☐	☐	

Environmental Specifications

Item	Specification
Operating Temperature	32 ~ 120°F (0 ~ 50°C)
Storage Temperature	-4 ~ 176°F (-20 ~ 80°C)
Operating Humidity	10 ~ 90%, non-condensing
Storage Humidity	10 ~ 90%, non-condensing
Vibration	3G / 5 ~ 500Hz / operation (CFast module)
Shock	30G peak acceleration (11 m sec. duration), operation
Operating Temperature	32 ~ 120°F (0 ~ 50°C)

Note: Please refer Environment Test Report for detail information

Platform Information

Item	Device Information	Note
Product of department	ISD	
Model / Version	FWS-2260	
Main Board	FWS-2260	
BIOS / Version	FWS-2260 R1.6 (K226AM16) (01/25/2016)	
Driver folder	FWS-2260 20151230	
CPU Type	Intel ® Pentium ® CPU N3700 @ 1.60GHz Intel ® Pentium ® CPU N3710 @ 1.60GHz	
Memory Type	Transcend DDR3L 1600 SO-DIMM 8GB (SEC-449-BYK0-K4B4G0846D)	
CFast	Innodisk CFast 3ME 128GB	
mSATA (Option)	Innodisk mSATA mini 3ME 32G	
CF Card (Option)	Innodisk iCF9000 32GB	
USB DVD-ROM	USB Pioneer DVR-XD11T	
LCD Monitor	View Sonic VP2770-LED Dell 2713-LED	
Operating System	☒ Ubuntu 12.04 Kernel 3.5.0-23-generic #36	
	☐ Windows 7 Ultimate 32/64Bit	
	☒ Windows 8.1 Enterprise English Version 64Bit	
Power Supply	DC Adapter : FSP606-DBAE1 _ 12V	
	Chipset Information	
VGA Chipset	N3700 Soc	
Chipset Software	N3700 Soc	
Ethernet Chipset	Intel ® I211 Gigabit Network	
Super IO	ITE IT8728F	

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1. OSD Control Function Test

1.1. OSD Control Test

[x] Not Support

OSD Control Function	Function			Note
	Pass	Fail	N/A	
Auto	☐	☐	☐	
MENU	☐	☐	☐	
UP	☐	☐	☐	
DOWN	☐	☐	☐	
POWER	☐	☐	☐	
EXIT	☐	☐	☐	

1.2. OSD - On Screen Display Test

[x] Not Support

OSD - On Screen Display	Function			Note
	Pass	Fail	N/A	
Input Source	☐	☐	☐	OSD Control by system
PIP Enable	☐	☐	☐	
Auto Tune	☐	☐	☐	
Backlight	☐	☐	☐	
Brightness	☐	☐	☐	
Contrast	☐	☐	☐	
Color	☐	☐	☐	
Quality	☐	☐	☐	
Position	☐	☐	☐	
Language	☐	☐	☐	
Recall	☐	☐	☐	
Save Exit	☐	☐	☐	
Cancel Exit	☐	☐	☐	

1.3. OSD Light Test

[x] Not Support

OSD Control Function	Function			Note
	Pass	Fail	N/A	
Power off	☐	☐	☐	
Power on	☐	☐	☐	
Stand by	☐	☐	☐	

1.4. Modular System Industrial Workstation Function Test

Test Item	Result			Note
	Pass	Fail	N/A	
DC power outlet / inlet	☒	☐	☐	
Power On / Off	☒	☐	☐	
Reset Button	☒	☐	☐	
H.D.D LED	☐	☐	☒	
CD-ROM drive included	☐	☐	☒	
Floppy drive included	☐	☐	☒	
Lockable front-panel door	☐	☐	☒	
Touch Panel	☐	☐	☒	
59 Data-entry&20/24 Function keys	☐	☐	☒	

1.5. Mechanism construction check

Test Item	Result			Note
	Pass	Fail	N/A	
Case construction check	☒	☐	☐	
PCMCIA construction check	☐	☐	☒	
CF Card construction check	☐	☐	☒	
Component check	☐	☐	☒	

2. Hardware Test

2.1. CPU Compatibility Test

CPU Information	Result			Note
	Pass	Fail	N/A	
Intel ® Pentium ® N3700 CPU @ 1.60GHz	☒	☐	☐	
Intel ® Pentium ® N3710 CPU@ 1.60GHz	☒	☐	☐	

2.2. Memory Compatibility Test

Memory Information	AAEON P/N	MEM V5.01 For 3 loops			Note
		Pass	Fail	N/A	
Kinston DDR3L 1600 SO-DIMM 8GB (KVR16LS11/8)	XXXXXXXXXX	☒	☐	☐	DDR3 1.35V / DIMM Slot1
Kinston DDR3L 1600 SO-DIMM 8GB (KVR16LS11/8)	XXXXXXXXXX	☒	☐	☐	DDR3 1.35V / DIMM Slot2
ADATA DDR3L 1600 SO-DIMM 2GB (ADDS1600C2G-BMIK)	XXXXXXXXXX	☒	☐	☐	DDR3 1.35V / DIMM Slot1
ADATA DDR3L 1600 SO-DIMM 2GB (ADDS1600C2G-BMIK)	XXXXXXXXXX	☒	☐	☐	DDR3 1.35V / DIMM Slot2
ADATA DDR3L 1600 SO-DIMM 4GB ADDS 1600W4G11-BMIE	XXXXXXXXXX	☒	☐	☐	DDR3 1.35V / DIMM Slot1
ADATA DDR3L 1600 SO-DIMM 4GB ADDS 1600W4G11-BMIE	XXXXXXXXXX	☒	☐	☐	DDR3 1.35V / DIMM Slot2
ADATA DDR3L 1600 SO-DIMM 8GB (ADDS1600W8G11-BMIE)	XXXXXXXXXX	☒	☐	☐	DDR3 1.35V / DIMM Slot1
ADATA DDR3L 1600 SO-DIMM 8GB (ADDS1600W8G11-BMIE)	XXXXXXXXXX	☒	☐	☐	DDR3 1.35V / DIMM Slot2
DSL DDR3L 1600 SO-DIMM 8GB (SEC-231HYK0-K4B4G0846B)	XXXXXXXXXX	☒	☐	☐	DDR3 1.35V / DIMM Slot1
DSL DDR3L 1600 SO-DIMM 8GB (SEC-231HYK0-K4B4G0846B)	XXXXXXXXXX	☒	☐	☐	DDR3 1.35V / DIMM Slot2
DSL DDR3L 1600 SO-DIMM 2GB (hynix-H5TC2G83EFR)	XXXXXXXXXX	☒	☐	☐	DDR3 1.35V / DIMM Slot1
DSL DDR3L 1600 SO-DIMM 2GB (hynix-H5TC2G83EFR)	XXXXXXXXXX	☒	☐	☐	DDR3 1.35V / DIMM Slot2
Transcend DDR3L 1600 SO-DIMM 2GB (SEC-501-BYMA-K4B2G0846Q)	SD3-201505C CTOS	☒	☐	☐	DDR3 1.35V / DIMM Slot1
Transcend DDR3L 1600 SO-DIMM 2GB (SEC-501-BYMA-K4B2G0846Q)	SD3-201506C CTOS	☒	☐	☐	DDR3 1.35V / DIMM Slot2
Transcend DDR3L 1600 SO-DIMM 4GB (SEC-446-XYK0-K4B4G0846D)	SD3-201511C CTOS	☒	☐	☐	DDR3 1.35V / DIMM Slot1
Transcend DDR3L 1600 SO-DIMM 4GB (SEC-446-XYK0-K4B4G0846D)	SD3-201512C CTOS	☒	☐	☐	DDR3 1.35V / DIMM Slot2
Transcend DDR3L 1600 SO-DIMM 8GB (SEC-449-BYK0-K4B4G0846D)	SD3-201517C CTOS	☒	☐	☐	DDR3 1.35V / DIMM Slot1
Transcend DDR3L 1600 SO-DIMM 8GB (SEC-449-BYK0-K4B4G0846D)	SD3-201518C CTOS	☒	☐	☐	DDR3 1.35V / DIMM Slot2
InnoDisk DDR3L 1600 SO-DIMM 2GB (M3S0-2GSJCLPC-26)	SD3-201531C CTOS	☒	☐	☐	DDR3 1.35V / DIMM Slot1
InnoDisk DDR3L 1600 SO-DIMM 2GB (M3S0-2GSJCLPC-26)	SD3-201532C CTOS	☒	☐	☐	DDR3 1.35V / DIMM Slot2
InnoDisk DDR3L 1600 SO-DIMM 4GB (M3S0-4GSSCLP-26)	SD3-201541C CTOS	☒	☐	☐	DDR3 1.35V / DIMM Slot1

InnoDisk DDR3L 1600 SO-DIMM 4GB (M3S0-4GSSCLP-26)	SD3-201542C CTOS	☒	☐	☐	DDR3 1.35V / DIMM Slot2
InnoDisk DDR3L 1600 SO-DIMM 8GB (M3S0-8GSSDLPC-26)	SD3 - S21 CTOS	☒	☐	☐	DDR3 1.35V / DIMM Slot1
InnoDisk DDR3L 1600 SO-DIMM 8GB (M3S0-8GSSDLPC-26)	SD3 - S23 CTOS	☒	☐	☐	DDR3 1.35V / DIMM Slot2
Transcend DDR3L 1333 SO-DIMM 4GB (SEC-419-XYK0-K4B4G0846D)	XXXXXXXXXX	☒	☐	☐	DDR3 1.35V / DIMM Slot1
Transcend DDR3L 1333 SO-DIMM 4GB (SEC-419-XYK0-K4B4G0846D)	XXXXXXXXXX	☒	☐	☐	DDR3 1.35V / DIMM Slot2
Innodisk DDR3L 1066 SO-DIMM 4GB (SEC-501-BYK0-K4B4G0846D)	XXXXXXXXXX	☒	☐	☐	DDR3 1.35V / DIMM Slot1
Innodisk DDR3L 1066 SO-DIMM 4GB (SEC-501-BYK0-K4B4G0846D)	XXXXXXXXXX	☒	☐	☐	DDR3 1.35V / DIMM Slot2
Innodisk DDR3L 1066 SO-DIMM 2GB (SEC-501-BYK0-K4B4G0846D)	XXXXXXXXXX	☒	☐	☐	DDR3 1.35V / DIMM Slot1
Innodisk DDR3L 1066 SO-DIMM 2GB (SEC-501-BYK0-K4B4G0846D)	XXXXXXXXXX	☒	☐	☐	DDR3 1.35V / DIMM Slot2

2.3. SATA Compatibility Test

2.3.1 Onboard SATA (IDE) Test

[x] No Support

SATA Device Information	Result			Note
	Pass	Fail	N/A	
	☐	☐	☐	
	☐	☐	☐	
	☐	☐	☐	
	☐	☐	☐	
	☐	☐	☐	
	☐	☐	☐	
	☐	☐	☐	

Remark : Braswell not support IDE mode

2.3.2 Onboard SATA (AHCI) Test

SATA AHCI Test	Result			Note
	Pass	Fail	N/A	
TOSHIBA MK3276GSX 2.5” SATAII HDD 320GB	☒	☐	☐	
WD WD10JPVX 2.5” SATAII HDD 1TB	☒	☐	☐	
WD WD5000LPVX SATA 2.5” 500GB	☒	☐	☐	
WD WD10SPCX 2.5” SATAII HDD 1TB	☒	☐	☐	
TOSHIBA DT01ACA050 SATAIII 3.5” 500GB	☒	☐	☐	
Crucial M550 SATAIII 2.5 SSD 256GB	☒	☐	☐	
HGST HTS541010A9E680 2.5” SATAIII HDD 1TB	☒	☐	☐	

2.4. Compact Flash Compatibility Test

Compact Flash Information	Result			Note
	Pass	Fail	N/A	
Innodisk iCF9000 32GB	☒	☐	☐	Option SKU
Innodisk Compact Flash 16GB	☒	☐	☐	
Innodisk Compact Flash 4GB	☒	☐	☐	
Transcend Compact Flash 4GB	☒	☐	☐	

2.5. CFast Compatibility Test

Cfast Information	AAEON P/N	ATTO R/W			Note
		Pass	Fail	N/A	
Innodisk CFast 32E 32GB	XXXXXXXXXX	☒	☐	☐	
Innodisk CFast 64E 64GB	XXXXXXXXXX	☒	☐	☐	
Innodisk CFast 3ME 64GB	CFast-S18	☒	☐	☐	
Innodisk CFast 3ME 128GB	CFast-S24	☒	☐	☐	
Innodisk CFast 3ME 16GB	CFast-S08	☒	☐	☐	Install OS / Win8.1 64bit
Innodisk CFast 3ME 32GB	CFast-S14	☒	☐	☐	
Innodisk CFast 3ME 8GB	CFast-S09	☒	☐	☐	
Innodisk CFast 3ME 4GB	CFast-S01	☒	☐	☐	

2.6. m-SATA Compatibility Test

m-SATA Information	AAEON P/N	ATTO R/W			Note
		Pass	Fail	N/A	
Innodisk mSATA mini 3ME 16G	XXXXXXXXXX	☒	☐	☐	Option SKU / Install OS / Win8.1 64bit
Innodisk mSATA mini 3ME 32G	XXXXXXXXXX	☒	☐	☐	
Innodisk mSATA mini 3ME 8G	XXXXXXXXXX	☒	☐	☐	
SanDisk mSATA 32G	XXXXXXXXXX	☒	☐	☐	

3. Basic Function Test

3.1. Video Function Test

3.1.1. Single Output Function Test

	Hardware Information with Windows 8.1 Enterprise English Version 64 Bit
CPU Type	Intel ® Pentium ® CPU N3700 @ 1.60GHz
Memory Type	Transcend DDR3L 1600 SO-DIMM 8GB (SEC-449-BYK0-K4B4G0846D)
mSATA	WD WD10SPCX 2.5” SATAII HDD 1TB
LVDS	Onboard Display 10.1” ,WXGA, 1280x800
HDMI	View Sonic VP2770-LED
Color Quality	☒16bit ☐24bit ☒32bit

Resolution	HDMI			LVDS			VGA			DP(Optional)			Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
640X480	☐	☐	☒	☐	☐	☒	☐	☐	☒	☐	☐	☒	
800X600	☐	☐	☒	☐	☐	☒	☐	☐	☒	☐	☐	☒	
1024X768	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐	☐	☒	
1152X864	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐	☐	☒	
1280X600	☐	☐	☒	☐	☐	☒	☐	☐	☒	☐	☐	☒	
1280X720	☐	☐	☒	☐	☐	☒	☐	☐	☒	☐	☐	☒	
1280X768	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐	☐	☒	
1280X800	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐	☐	☒	
1280X960	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐	☐	☒	
1280X1024	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐	☐	☒	
1360X768	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐	☐	☒	
1366X768	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐	☐	☒	
1440X900	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐	☐	☒	
1600X900	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐	☐	☒	
1600X1200	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐	☐	☒	
1680X1050	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐	☐	☒	
1792X1344	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐	☐	☒	
1856X1392	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐	☐	☒	
1920X1080	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐	☐	☒	
1920X1200	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐	☐	☒	
1920X1440	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐	☐	☒	
2048X1152	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐	☐	☒	
2560X1440	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐	☐	☒	
3840 X 2160	☐	☐	☒	☐	☐	☒	☐	☐	☒	☐	☐	☒	
EDID check	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐	☐	☒	
Hot plug	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐	☐	☒	
Rotation(0/90/180/270)	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐	☐	☒	
DOS Display	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐	☐	☒	

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

3.1.2. Multi-Display Output Test

[x] Not Support

Selection	Output	Result			Note
		Pass	Fail	N/A	
Dual Display Clone	LVDS + HDMI	☐	☐	☐	
Extended Desktop		☐	☐	☐	

3.1.3. Video Resolution Test

Test points:

1. Power on without inserting any HDMI connector until system reaches Windows desktop
2. Plug HDMI connector into test machine while system reaches Windows then check VGA driver and display
3. Check VGA output Brightness is normal and it shows “Ghost Image” / ”Flicker” or not

	Result			Note
	Pass	Fail	N/A	
In Windows Desktop	☒	☐	☐	

3.2. Audio Function Test

Function Test	Result			Note
	Pass	Fail	N/A	
HDMI Audio Test	☒	☐	☐	

3.3. LAN Function Test

〔 〕No Support

Connect two computers via different speed LAN HUB by using “Ping” instruction (1000 times) Command: ping xxx.xxx.xx.xx –l 65500 –n 1000			
1000MBps LAN HUB	D-Link DGS-1008D		
100MBps LAN HUB	Accton Desktop-3005		
10MBps LAN HUB	SVEC FD916H		
On Board LAN1	Intel I211Gigabit Network Connection	MAC Address	00-01-22-33-44-D5
On Board LAN2	Intel I211Gigabit Network Connection	MAC Address	00-01-22-33-44-D6
On Board LAN3	Intel I211Gigabit Network Connection	MAC Address	00-01-22-33-44-D7
On Board LAN4	Intel I211Gigabit Network Connection	MAC Address	00-01-22-33-44-D8
On Board LAN5	Intel I211Gigabit Network Connection	MAC Address	00-01-22-33-44-D9
On Board LAN6	Intel I211Gigabit Network Connection	MAC Address	00-01-22-33-44-DA

LAN Speed	Link / Speed LED	Active LED	LAN 1 / 2 / 3			LAN 4 / 5 / 6			Note
			Pass	Fail	N/A	Pass	Fail	N/A	
1000MBps			☒	☐	☐	☒	☐	☐	
100MBps			☒	☐	☐	☒	☐	☐	
10MBps			☒	☐	☐	☒	☐	☐	
Wake On LAN			☒	☐	☐	☒	☐	☐	S3 / S4 / S5
LAN Boot (PXE)			☒	☐	☐	☒	☐	☐	
Internet Browser (DHCP Server)			☒	☐	☐	☒	☐	☐	

3.3.2. Throughput Test

DUT Platform Information:

☐	**Fedora 15**
☒	**Cent 7.0**
☐	**Ubuntu 12.04 Kernel 3.2.0-23 generic #36**
☐	**Red Hat**

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

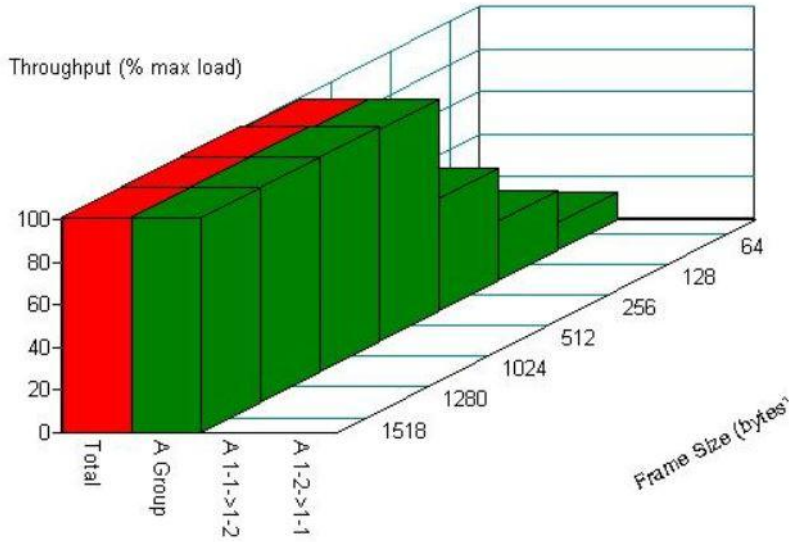
Graphics Media	Default setting
LAN	LAN1 → Intel I211 Gigabit Network Connection Ethernet
	LAN2 → Intel I211 Gigabit Network Connection Ethernet
	LAN3 → Intel I211 Gigabit Network Connection Ethernet
	LAN4 → Intel I211 Gigabit Network Connection Ethernet
	LAN5 → Intel I211 Gigabit Network Connection Ethernet
	LAN6 → Intel I211 Gigabit Network Connection Ethernet
CPU information	Intel ® Pentium ® CPU N3700 @ 1.60GHz

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:

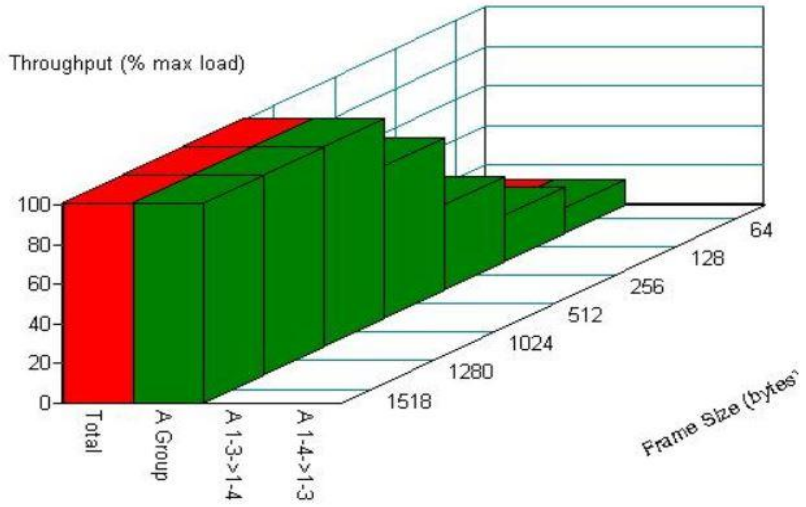
1. Binary Direction (LAN1 : Intel I211 Gigabit Network Connection Ethernet LAN2: Intel I211 Gigabit Network Connection Ethernet)



Throughput vs Frame Size

Name/Framesize	64	128	256	512	1024	1280	1518
Total	12.6015625	27.296875	52.046875	99.2265625	100	100	100
A Group	12.6015625	27.296875	52.046875	99.2265625	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

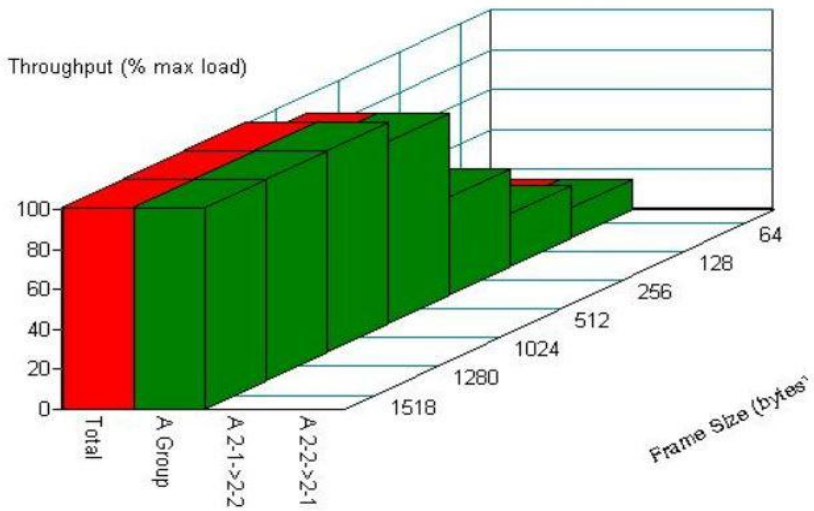
2. Binary Direction (LAN3 :Intel I211 Gigabit Network Connection Ethernet LAN4: Intel I211 Gigabit Network Connection Ethernet)



Throughput vs Frame Size

Name/Framesize	64	128	256	512	1024	1280	1518
Total	12.6015625	22.65625	42.765625	76.0234375	100	100	100
A Group	12.6015625	22.65625	42.765625	76.0234375	100	100	100
A 1-3->1-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A 1-4->1-3	N/A	N/A	N/A	N/A	N/A	N/A	N/A

3. Binary Direction (LAN5 : Intel I211 Gigabit Network Connection Ethernet LAN6: Intel I211 Gigabit Network Connection Ethernet)



Throughput vs Frame Size

Name/Framesize	64	128	256	512	1024	1280	1518
Total	14.921875	25.75	48.1796875	90.71875	100	100	100
A Group	14.921875	25.75	48.1796875	90.71875	100	100	100
A 2-1->2-2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A 2-2->2-1	N/A	N/A	N/A	N/A	N/A	N/A	N/A

3.4. Jumper and Connector Function Test

〔 〕No Support

Function Test	Result			Note
	Pass	Fail	N/A	
DDR3L SO-DIMM Socket	☒	☐	☐	DIMM1
DDR3L SO-DIMM Socket	☒	☐	☐	DIMM2
DC 12V IN JACK	☒	☐	☐	CN22
PS2 KB/MS	☒	☐	☐	CN4
COM Port	☒	☐	☐	COM1
Console Port	☒	☐	☐	CON1
USB3.0 x 2 (Real/ IO)	☒	☐	☐	CN20
USB3.0 (Internal)	☒	☐	☐	CN9
Front Panel	☒	☐	☐	CN5
SATA Port	☒	☐	☐	CN11
SATA Power	☒	☐	☐	CN10
SIM Card 1 & 2	☒	☐	☐	CN14 / CN16
Mini PCIe Socket	☒	☐	☐	CN13 / CN17
CFast	☒	☐	☐	CN7
HDMI	☒	☐	☐	CN23
CPU FAN	☒	☐	☐	4P Smart FAN
Auto PWRBTN Selection	☒	☐	☐	JP2
CMOS Setting Selection	☒	☐	☐	CN3 / CN12

4. Integration Test

	Hardware Information with Windows 8.1 Enterprise English SP1 64 Bit Driver Version
CPU	Intel ® Pentium ® CPU N3700 @ 1.60GHz
Memory	Transcend DDR3L 1600 SO-DIMM 8GB (SEC-449-BYK0-K4B4G0846D)
SATA HDD	WD WD10SPCX 2.5” SATAII HDD 1TB
	Chipset Information with Windows 8.1 Enterprise English SP1 64 Bit Driver Version
Chipset Driver	Intel ® Chipset Device Software 10.0 (2015/3/15)
Graphics Driver	Intel ® HD Graphics 10.18.14.4189 (4/10/2015)
Ethernet Driver	Intel ® I211 Gigabit Network Connection 12.6.47.1 (3/28/2013)

4.1. USB Port Integration Test **(Rear IO USB3.0 x 2 / Internal USB3.0 x 1)**

Item \ USB Port	Boot			Function			Note
	Pass	Fail	N/A	Pass	Fail	N/A	
USB HDD	☒	☐	☐	☒	☐	☐	
USB FDD Mitsumi D353GUE	☒	☐	☐	☒	☐	☐	
SONY USB2.0 DVD-R/W DRX-830UL	☒	☐	☐	☒	☐	☐	
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				☒	☐	☐	

4.2. Digital I/O Port Test

DIO Address (___)	Result			Note
	Pass	Fail	N/A	
DIO VCC +5V	☒	☐	☐	**Input / Output H : 3V / L :0V**

4.3. COM Port Integration Test

[x] Not Support

Test Item		Result			Note
		Pass	Fail	N/A	
Serial Modem Dial Out		☐	☐	☐	
Serial Modem	Ring In	☐	☐	☐	
	+12V	☐	☐	☐	Test by Multimeter
	+5V	☐	☐	☐	Test by Multimeter

4.4. RS-232 / RS-422 / RS-485 Test

[x] Not Support

Test Item	Result			Note
	Pass	Fail	N/A	
RS-422 for COM1 & COM2	☐	☐	☐	Use loopback and WINSSD.exe to test RS-422 in Windows
	☐	☐	☐	1. The communication between the RS-422 port of two boards is linked by one 1.2km cable on Windows Terminal 2. Confirm RS422 can work properly from G3 status
RS-485 for COM1 & COM2	☐	☐	☐	Use ICP CON I-7044D D/IO Module in Windows(Support Auto flow control)
	☐	☐	☐	1. The communication between the RS-485 port of two boards is linked by one 1200m cable on Windows Terminal 2. Confirm RS485 can work properly from G3 status
RS-232 for COM1 & COM2	☐	☐	☐	1. COM Port Mouse 2. 115200 / 9600 /300 COM Speed

4.5. LPT Port Test

[x] Not Support

Test Item	Result			Note
	Pass	Fail	N/A	
XEROX Phaser 3124 Laser Printer	☐	☐	☐	

5. Application Test

5.1. PCI Slot Function (PCI Adapter Card) Test 〔X〕No Support

Adapter VGA Card	Set Simultaneous Display and Reboot			Note
	Pass	Fail	N/A	
CHAINTECH NVIDIA GeForce4 MX440-8X	☐	☐	☐	
Adapter Sound Card	**Play Sound**			**Note**
	Pass	**Fail**	**N/A**	
Creative Sound BLASTER Live5.1	☐	☐	☐	
Adapter SCSI Card	**Copy files to SCSI HDD**			**Note**
	Pass	**Fail**	**N/A**	
ADAPTEC Ultra160 SCSI ASC-29160	☐	☐	☐	
Adapter Image Capture Card	**Connect to CCD**			**Note**
	Pass	**Fail**	**N/A**	
I-VIEW CP-1400AS (with Age STD-477FAI CCD)	☐	☐	☐	
Adapter LAN Card	**Connect to Internet**			**Note**
	Pass	**Fail**	**N/A**	
Intel GD82559 10/100 Mbps Fast Ethernet Adapter	☐	☐	☐	
INTEL PWLA8391GTBLK Pro/1000 Giga LAN Card	☐	☐	☐	
Adapter RAID Card	**RAID 0 , 1 , 10 Function Test**			**Note**
	Pass	**Fail**	**N/A**	
ADAPTEC 1420SA RoHS 4-Port SATA II RAID	☐	☐	☐	

5.2. PCI-Express Function Test

PCI-Express x1	Function Test			Note
	Pass	Fail	N/A	
SUNIX SATA1414 eSATA & SATAII x1Express card	☐	☐	☒	
Syskonnect SK-9E21D 10 /100/1000 Base-T Adapter PCI-Express x1 LAN Card	☐	☐	☒	
PCI-Express x4	**Function Test**			**Note**
	Pass	**Fail**	**N/A**	
Adaptec AAR-1430SA SATAII HostRAID Controllers PCI-Express x4 RAID Card	☐	☐	☒	
PCI-Express x16	**Function Test**			**Note**
	Pass	**Fail**	**N/A**	
ASUS EAX1600PRO/TD/256M/A (ATI Chipset) PCI-Express x16 VGA Card	☐	☐	☒	
WINFAST PX6200 TC TDH PCI-Express x16 VGA Card	☐	☐	☒	
Express card	**Function Test**			**Note**
	Pass	**Fail**	**N/A**	
SUNIX SATA II Express card	☐	☐	☒	
SunBox 34mm Giga LAN Express Card	☐	☐	☒	
Mini PCI Express Card	**Function Test**			**Note**
	Pass	**Fail**	**N/A**	
Ralink RT2571WF – Wireless LAN Card (USB Interface)	☒	☐	☐	Full Size
HUAWEI MINI PCIE 3G Wireless Card (EM820W)	☒	☐	☐	Full Size

MINI-PCI-E 3G Wireless Card (EM680)	☒	☐	☐	Full Size
MINI-PCI-E 4G Wireless Card (MC7304)	☒	☐	☐	Full Size

Remark: Mini-PCIE via USB Single

5.3. Mini PCI Card Compatibility Test

〔X〕**No Support**

Device Item	Function Test			Note
	Pass	Fail	N/A	
Mini PCI.10/100 Base-Tx LAN (W/Intel.82551QM .A1.0) (Model:PER-C10L)	☐	☐	☐	
GM-101 WLAN 11b/g 54Mbps Mini PCI Card (Model: VNT6655AM)	☐	☐	☐	
ADLINK mPCI-8750 ATI Rage XL Mini PCI VGA Card	☐	☐	☐	

5.4. CardBus (PCMCIA) Compatibility Function Test

〔X〕**No Support**

Device Item		Bit	Function Test			Note
			Pass	Fail	N/A	
Intel PRO/Wireless 2011B LAN PC Card (WPC2011BWW)	Slot 1 (Up)	16	☐	☐	☐	[PC-200200]
	Slot 2 (Down)		☐	☐	☐	
Kingston datapack DP-PCM2 / 2GB (PC Card TypeII HDD)	Slot 1 (Up)	32	☐	☐	☐	[PC-200201]
	Slot 2 (Down)		☐	☐	☐	
PCi GW-NS54SG Cardbus Adapter Wireless LAN Type-II	Slot 1 (Up)	32	☐	☐	☐	[PC-200502]
	Slot 2 (Down)		☐	☐	☐	
PCi GW-NS54SG Cardbus Adapter Wireless LAN Type-II	Slot 2 (Down)	16	☐	☐	☐	[PC-200502]

5.5. ISA Slot Function Test

〔X〕**No Support**

Test Item		Result			Note
		Pass	Fail	N/A	
SCSI Card	Adaptec AHA-1520B SCSI Card	☐	☐	☐	[SS-002]
LAN Card	NE2000 Compatible LAN Card (RTL8019AS)	☐	☐	☐	[NW-014]
VGA Card	CIRRUS LOGIC 5429 FCC ID:ICUVGA-GWV27A	☐	☐	☐	[VC-008]

5.6. Adapter Compatibility- Industry Control Card PC/104, PC/104+, PCI-104

5.6.1. Device List: PC/104 Module

〔X〕**No Support**

Test Item	Result			Note
	Pass	Fail	N/A	
AAEON PCM-3660	☐	☐	☐	

5.6.2. Device List: PC/104+ Module

〔X〕**No Support**

Test Item	Result			Note
	Pass	Fail	N/A	
AAEON PCM-3430	☐	☐	☐	

5.6.3. Device List: PCI-104 Module

〔X〕**No Support**

Test Item	Result			Note
	Pass	Fail	N/A	
AAEON PCM-3730	☐	☐	☐	

5.6.4. Device List: PCI/104 Express Module 〔X〕No Support

Test Item	Result			Note
	Pass	Fail	N/A	
AAEON PER-123	☐	☐	☐	

5.7. SSD Modules Compatibility Test

SSD HDD Compatibility Test:

Cable Type: 〔 〕 IDE 〔 〕SATA2 〔 〕MLC 〔 〕SLC 〔X〕No Support

Test Item	Result			Note
	Pass	Fail	N/A	
Transcend SSD 16G - TS16GSSD25S	☐	☐	☐	

5.8. Peripheral Compatibility- Storage Device Test

5.8.1. Disk on Chip (DOC) Test 〔X〕No Support

Test Item		Result			Note
		Pass	Fail	N/A	
DOC 2000 Model	16MB	☐	☐	☐	M-System / MD2200-D16
DOC 2000 Onboard Address	CC00	☐	☐	☐	
	D000	☐	☐	☐	
	D400	☐	☐	☐	
	D800	☐	☐	☐	
	DC00	☐	☐	☐	
	Disable	☐	☐	☐	

5.8.2. Disk on module (DOM) Test 〔X〕No Support

Test Item	Result			Note
	Pass	Fail	N/A	
Transcend / TS512MDOM40V / 512MB / IDE 40 Pin	☐	☐	☐	
5ranscend / TS512MDOM44V / 512MB / IDE 44 Pin	☐	☐	☐	

5.9. Riser Card Function Test 〔X〕No Support

Test Item		Result			Note
		Pass	Fail	N/A	
LAN		☐	☐	☐	
PCI Slot		☐	☐	☐	
PCI-e Slot		☐	☐	☐	

5.10. Display port Converter Compatibility Test 〔X〕No Support

Test Item			Result			Note
			Pass	Fail	N/A	
DP to HDMI converter: LPC-1504	DOS display	Full screen	☐	☐	☐	
	OS display	Full screen	☐	☐	☐	Max resolution:

DP to DVI converter: LPC-1503	DOS display	Full screen	☐	☐	☐	
	OS display	Full screen	☐	☐	☐	Max resolution:

5.2. PC Health Status

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

Voltage Monitoring Test	Result			BIOS (V)	Actual (V)	Note
	Pass	Fail	N/A			
VCORE	☒	☐	☐	+0.888V	+0.828	
Vmem	☒	☐	☐	+1.356V	+1.368	
+12V	☒	☐	☐	+12.192V	+12.096V	
+5V	☒	☐	☐	+5.060V	+5.060V	
+5VSB	☒	☐	☐	+5.060V	+5.058V	
VBAT	☒	☐	☐	+3.072V	+3.11V	
Fan Speed	☐	☐	☒	RPM	RPM	
System Temp	☒	☐	☐	+38℃	41℃	
CPU Temp	☒	☐	☐	+52℃	56℃	

6. Time Accuracy Test

6.1. System Clock & RTC Clock Test

Under Room Temperature: 26 °C

Function \ Item	Time Interval	Margin for error	Actual		Result			Note
					Pass	Fail	N/A	
RTC Clock in Power On Mode	24 hrs	+/-2 sec	-1	Sec	☒	☐	☐	
RTC Clock in Power Off Mode	24 hrs	+/-2 sec	0	Sec	☒	☐	☐	

6.2. Booting Timer Test

Installation	Actual		Note
System Booting Time	8.4	Sec	Press the Power Button till “Display” appears

6.3. Watchdog Timer Test

Use Function as below: Hi-Safe V20151023

〔 〕No Support.

Time-Out Interval	Margin for error	Actual		Result			Note
				Pass	Fail	N/A	
10 sec	+/- 10%	10	Sec	☒	☐	☐	
60 sec	+/- 10%	60	Sec	☒	☐	☐	
255 sec	+/- 10%	255	Sec	☒	☐	☐	

Note : Under Room Temperature: 26℃ / DOS Mode

7. O.S. Compatibility Test

7.1. English Ubuntu 12.04 Kernel 3.5.0-23-generic #36

〔 〕No Support
Driver Information:

Chipset Software	System default
Graphics Media	System default
LAN Driver	Intel i211 / 1.5.1-K

Install OS to SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
English Ubuntu12.04 kernel 3.5.0-23-generic	☒	☐	☐	Type uname -a

Test Result:

Test Item	Result			Note
	Pass	Fail	N/A	
Display Function Test				
VGA -- Full Screen	☐	☐	☒	
DVI -- Full Screen	☐	☐	☒	
HDMI -- Full Screen	☒	☐	☐	1920X1200
Network Function Test				
Connect to Internet – LAN 1	☒	☐	☐	
Connect to Internet – LAN 2	☒	☐	☐	
Connect to Internet – LAN 3	☒	☐	☐	
Connect to Internet – LAN 4	☒	☐	☐	
Connect to Internet – LAN 5	☒	☐	☐	
Connect to Internet – LAN 6	☒	☐	☐	
Audio Function Test				
Play Audio Function Test	☐	☐	☒	Play Audio Test
Base Function Test				
Mouse Test	☒	☐	☐	
Keyboard Test	☒	☐	☐	
Console Redirection	☒	☐	☐	
DVD-ROM Test	☒	☐	☐	USB
USB 3.0 Removable Devices	☒	☐	☐	
X Windows Application				
Start Button Office	☒	☐	☐	Office function
X-Window	☒	☐	☐	Startx – Desktop in Linux
Command Test On Text Mode: Attention Delay Phenomenon				
uname –a	☒	☐	☐	Show information
Shutdown	☒	☐	☐	Init 0 or shutdown –h now
Restart the Computer	☒	☐	☐	Init 6 or shutdown –r now
ls / clear ……; cd /dev /ls –l	☒	☐	☐	Command instruction

7.2. Windows XP Professional English Version 32/64Bit

〔X〕No Support
〔 〕x32 Driver Information:

Chipset Software	
Graphics Media	
Audio Driver	
LAN Driver	

〔 〕x64 Driver Information:

Chipset Software	
Graphics Media	
Audio Driver	
LAN Driver	

Install OS to IDE HDD/SATA HDD/ CF Card:

Installation	Result			Note
	Pass	Fail	N/A	
English Windows XP Professional ACPI Mode	☐	☐	☐	

Test Results:

Test Item	Result			Note
	Pass	Fail	N/A	
Single Display				
VGA -- Full Screen	☐	☐	☐	
DVI -- Full Screen	☐	☐	☐	
LVDS -- Full Screen	☐	☐	☐	
Boot - Windows XP Professional Advanced Options Menu				
Safe Mode	☐	☐	☐	
Basic Function Test				
PS/2 Mouse and Keyboard	☐	☐	☐	
USB Mouse and Keyboard	☐	☐	☐	
COM Port Mouse detect	☐	☐	☐	
LPT1	☐	☐	☐	
USB 2.0 Removable Devices	☐	☐	☐	
Touch Function	☐	☐	☐	
TPM Function	☐	☐	☐	
LAN Function Test				
LAN1 --- Auto	☐	☐	☐	
LAN2 --- Auto	☐	☐	☐	
Audio Function Test				
Line Out Test	☐	☐	☐	
Line In Test	☐	☐	☐	
Microphone Test	☐	☐	☐	
S/P DIF Test	☐	☐	☐	
Start Menu				
Log off User	☐	☐	☐	
Shut down (S5)	☐	☐	☐	
Standby	☐	☐	☐	
Restart	☐	☐	☐	
Hibernate (S4)	☐	☐	☐	

7.3. Windows 7 Ultimate English Version 32/64Bit

〔X〕No Support
〔 〕x32 Driver Information:

Chipset Software	
Graphics Media	
Audio Driver	
LAN Driver	

〔 〕x64 Driver Information:

Chipset Software	
Graphics Media	
Audio Driver	
LAN Driver	

Install OS to SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
English Windows 7 Ultimate 32bit	☐	☐	☐	IDE Mode
English Windows 7 Ultimate 64bit	☐	☐	☐	AHCI Mode

Test Results:

Test Item	Result			Note
	Pass	Fail	N/A	
Single Display				
VGA -- Full Screen	☐	☐	☐	
DVI -- Full Screen	☐	☐	☐	
HDMI -- Full Screen	☐	☐	☐	
LVDS – Full Screen	☐	☐	☐	
Boot - Windows 7 Ultimate Advanced Options Menu				
Safe Mode	☐	☐	☐	
Basic Function Test				
PS/2 Mouse and Keyboard	☐	☐	☐	
USB Mouse and Keyboard	☐	☐	☐	
COM Port Mouse detect	☐	☐	☐	
USB Removable Devices	☐	☐	☐	
TPM Function	☐	☐	☐	
LAN Function Test				
LAN1 --- Auto	☐	☐	☐	
LAN2 --- Auto	☐	☐	☐	
Audio Function Test				
Line Out Test	☐	☐	☐	
Line In Test	☐	☐	☐	
Microphone Test	☐	☐	☐	
HDMI Audio Output	☐	☐	☐	
Start Menu				
Log off User	☐	☐	☐	
Shut down (S5)	☐	☐	☐	
Standby (S3)	☐	☐	☐	
Restart	☐	☐	☐	
Hibernate (S4)	☐	☐	☐	

7.4. Windows 8.1 Enterprise English Version 32/64Bit

〔 〕No Support
〔 〕x32 Driver Information:

Chipset Software	
Graphics Media	
Audio Driver	
LAN Driver	

〔X〕x64 Driver Information:

Chipset Software	Intel ® Chipset Device Software 10.0 (2015/3/12)
Graphics Media	Intel ® HD Graphics 10.18.14.4299 (10/1/2015)
LAN Driver	Intel ® I211 Gigabit Network Connection 12.14.7.0 (6/18/2015)

Install OS to SATA HDD :

Installation	Result			Note
	Pass	Fail	N/A	
English Windows 8.1 Enterprise ACPI Mode	☒	☐	☐	64bit / AHCI Mode

Test Results:

Test Item	Result			Note
	Pass	Fail	N/A	
Single Display				
HMDI -- Full Screen	☒	☐	☐	2560 x 1440
Boot - Windows 7 Ultimate Advanced Options Menu				
Safe Mode	☒	☐	☐	msconfig
Basic Function Test				
USB Mouse and Keyboard	☒	☐	☐	
PS2 Mouse and Keyboard	☒	☐	☐	
USB 3.0 Removable Devices	☒	☐	☐	
Console Function	☒	☐	☐	
LAN Function Test				
LAN1 --- Auto	☒	☐	☐	
LAN2 --- Auto	☒	☐	☐	
LAN3 --- Auto	☒	☐	☐	
LAN4 --- Auto	☒	☐	☐	
LAN5 --- Auto	☒	☐	☐	
LAN6 --- Auto	☒	☐	☐	
Audio Function Test				
HDMI Audio Test	☒	☐	☐	
Line In Test	☐	☐	☒	
Microphone Test	☐	☐	☒	
S/P DIF Test	☐	☐	☒	
Start Menu				
Log off User	☒	☐	☐	
Shut down (S5)	☒	☐	☐	
Standby (S3)	☒	☐	☐	
Restart	☒	☐	☐	
Hibernate (S4)	☒	☐	☐	

8. BIOS Function Test

	Hardware Information with Windows 8.1 Enterprise English SP1 64 Bit Driver Version
CPU	Intel ® Pentium ® CPU N3700 @ 1.60GHz
Memory	Transcend DDR3L 1600 SO-DIMM 8GB (SEC-449-BYK0-K4B4G0846D)
SATA HDD	WD WD10SPCX 2.5” SATAII HDD 1TB

8.1. Advanced Test

Test Item			Result			Note
			Pass	Fail	N/A	
CPU Configuration	Intel Virtualization		☒	☐	☐	Enable/Disable
SATA configuration	SATA Controller		☒	☐	☐	
	Hot Plug		☒	☐	☐	
USB configuration	Legacy USB Support		☒	☐	☐	Enable / Disable / Auto
	XHCI Mode		☒	☐	☐	
HW Monitor	PC Health Status		☒	☐	☐	
Serial Port Console Redirection	Console Redirection		☒	☐	☐	
Power Manager	Power Mode	AT	☒	☐	☐	
		ATX	☒	☐	☐	
	AC Power Loss	Always on	☒	☐	☐	
		Always off	☒	☐	☐	
		Last State	☒	☐	☐	
	RTC Wake System from S5	Disable	☒	☐	☐	
		Fixed Time	☒	☐	☐	
		Dynamic Time	☒	☐	☐	
DIO configuration	DIO Port	Output	☒	☐	☐	Hi / Low
		Input	☒	☐	☐	
LAN Bypass Configuration	LAN Bypass Status LED	LED OFF	☒	☐	☐	
		RED LED ON	☒	☐	☐	
		RED LED BLINK	☒	☐	☐	
		RED LED FAST BLINK	☒	☐	☐	
		GREEN LED ON	☒	☐	☐	
		GREEN LED BLINK	☒	☐	☐	
		GREEN LED FAST BLINK	☒	☐	☐	
LAN Bypass Kit 1	Power on	PassTru	☒	☐	☐	
		Bypass	☒	☐	☐	
	Power off	PassTru	☒	☐	☐	
		Bypass	☒	☐	☐	
LAN Bypass Kit 2	Power on	PassTru	☒	☐	☐	
		Bypass	☒	☐	☐	
	Power off	PassTru	☒	☐	☐	
		Bypass	☒	☐	☐	
WDT Configuration	Force Bypass		☒	☐	☐	
	System Reset		☒	☐	☐	

8.2. Chipset Test

Test Item		Result			Note
		Pass	Fail	N/A	
North Bridge	DVMT Pre-Allocated	☒	☐	☐	
	DVMT Total Gfx Mem	☒	☐	☐	
South Bridge	Audio Controller	☒	☐	☐	Enable / Disable

8.3. Boot Test

Test Item	Result			Note
	Pass	Fail	N/A	
Quiet Boot	☒	☐	☐	
Launch PXE OpROM	☒	☐	☐	
Boot From Hard Disk	☒	☐	☐	
Boot From USB HDD	☒	☐	☐	
Boot From USB Floppy	☒	☐	☐	
Boot From USB CD-ROM	☒	☐	☐	
Boot from LAN	☒	☐	☐	
Disable	☒	☐	☐	

8.4. CMOS Backup / Clear CMOS Test

Test Item	Result			Note
	Pass	Fail	N/A	
CMOS Backup	☒	☐	☐	Clear Date and time and Password
Clear CMOS Test	☒	☐	☐	Clear Date and Password

8.5. AAEON Tag Check Utility

Test Item	Result			Note
	Pass	Fail	N/A	
Check AAEON BIOS OK	☒	☐	☐	AONCHECK.EXE

8.6. Supervisor / User Password Test

Test Item	Result			Note
	Pass	Fail	N/A	
Administrator Password	☒	☐	☐	
User Password	☒	☐	☐	

8.7. Hi-safe Test

Test Item		Result			Note
		Pass	Fail	N/A	
Version(20151023)		☒	☐	☐	
System Information	CPU Information	☒	☐	☐	
	Model Name	☒	☐	☐	
	Display Information	☒	☐	☐	
	RAM Information	☒	☐	☐	Support single DIMM
H/W Monitor	Info	☒	☐	☐	
	Fan Speed	☒	☐	☐	
	Temperature	☒	☐	☐	
	Voltage	☒	☐	☐	
DIO	DIO1~4 High	☒	☐	☐	
	DIO1~4 Low	☒	☐	☐	
	DIO5~6 High	☒	☐	☐	

	DIO5~6 Low	☒	☐	☐	
WatchDog	10sec	☒	☐	☐	Actual 10sec
	60sec	☒	☐	☐	Actual 60sec
	255sec	☒	☐	☐	Actual 270sec
	Auto Reload	☒	☐	☐	
SMBus	SMBus IO	☒	☐	☐	SMBus Address 0xF040
	Read Byte	☒	☐	☐	Slave Address A0h,
	Read Word	☒	☐	☐	
	Result / Read	☒	☐	☐	

9. Performance Test

	Hardware Information with Windows 8.1 Enterprise English SP1 64 Bit Driver Version
CPU	Intel ® Pentium ® CPU N3700 @ 1.60GHz
Memory	Transcend DDR3L 1600 SO-DIMM 8GB (SEC-449-BYK0-K4B4G0846D)
mSATA	WD WD10SPCX 2.5” SATAII HDD 1TB

9.1. Performance Test

Test Result: (Display set 1920*1080 test)

Testing Software	Scope		Note
	AAEON	Ref.	
PCMark2005			**Windows 8.1 64bit**
PCMark		-	PCMarks
CPU	3240	-	
Memory	2628	-	
Graphics	1710	-	
HDD	5375	-	
Benchmark (B)	-		
Average Efficiency	-		

3Dmark11 Professional Edition V121			**Windows 8.1 64bit**
Performance 1280*720 (Default)			
3Dmark 11Score	P566	-	
Graphics Score	515	-	
Physics Score	1394	-	
Combined Score	493	-	

Testing Software	Scope		Note
	AAEON	Ref.	
Performance Test 7.0			**Windows 8.1 64bit**
PassMark Rating	625.4	-	
CPU Mark	1571.7	-	
2D Graphics Mark	128.4	-	
3D Graphics Mark	198.6	-	
Memory Mark	621.5	-	
Disk Mark	714.4	-.	
CD Mark		-	

SATA Performance				
CPU	Intel ® Pentium ® CPU N3700 @ 1.60GHz			
Memory	Transcend DDR3L 1600 SO-DIMM 8GB (SEC-449-BYK0-K4B4G0846D)			
SATA HDD	WD WD10SPCX 2.5” SATAII HDD 1TB			
OS	Windows 8.1 Enterprise English 64bit			
Item	Comment / (unit)	Software	Score	Note
Single HDD (SATA port 1) SATAIII	Maximum Read	ATTO Disk Benchmark	271.2MB/s	
	Maximum Write	ATTO Disk Benchmark	50.4MB/s	

USB3.0 Performance (Real IO)				
USB Flash	Kingston USB3.0 _ 32GB			
Item	Comment / (unit)	Software	Transfer Rate (MB/s)	Note
USB3.0 (Rear IO)	Maximum Read	ATTO Disk Benchmark	144.6MB/s	CN20
	Maximum Write	ATTO Disk Benchmark	24.8MB/s	

USB3.0 Performance (Internal)				
USB Flash	Kingston USB3.0 _ 32GB			
Item	Comment / (unit)	Software	Transfer Rate (MB/s)	Note
USB3.0 (Pin Header)	Maximum Read	ATTO Disk Benchmark	144.6MB/s	CN9
	Maximum Write	ATTO Disk Benchmark	28.5MB/s	

10. Negative Test

10.1 USB Keyboard Negative Test

Methods	Result			Note
	Pass	Fail	N/A	
1. Boot into BIOS setup manual. 2. Press NumLock or ScrLk and press arrow key. 3. confirm arrow key function are normally	☒	☐	☐	

10.2 Suspend S3 Negative Test

[x] Not Support

Methods		Result			Note
		Pass	Fail	N/A	
1. Resume from S3. 2. Confirm com ports(RS232/422/485), DIO, smartfan, LVDS backlight control can work properly.	RS232/422/485	☐	☐	☐	
	DIO	☐	☐	☐	
	SmartFan	☐	☐	☐	
	LVDS Backlight control	☐	☐	☐	

11. Stability test

11.1. Burn In Test

Under Room Temperature: 26 ^{o}C

OS: Windows 8.1 Enterprise 64Bit SP1

Test Item			**Result**			**Note**
			Pass	**Fail**	**N/A**	
Burn In Test V8.0 (1025) Duty: 100 Time: over 12 hours	CPU		☒	☐	☐	Intel Pentium ® N3700 @1.60GHz
	RAM		☒	☐	☐	
	COM		☐	☐	☒	
	Video		☒	☐	☐	
	GPGPU		☐	☐	☒	
	2D		☒	☐	☐	
	3D		☒	☐	☐	
	Disk		☒	☐	☐	
	Sound		☐	☐	☒	
	Network		☒	☐	☐	
	Parallel		☐	☐	☒	
	USB	2.0	☒	☐	☐	
		3.0	☒	☐	☐	

Note: COM PORT Speed Set to 115200.

11.2. Reboot Test

Under Room Temperature: 26 °C
OS: Window8.1 Enterprise English 64bit

Reboot Test	Result			Note
	Pass	Fail	N/A	
Reboot test for 1000 cycles (AP: Passmark rebooter.exe)	☒	☐	☐	

11.3. Power ON/OFF Test

Under Room Temperature: 26 °C

ON/OFF Test	Result			Note
	Pass	Fail	N/A	
ON/OFF test for 1000 cycles	☒	☐	☐	