Report NO:17P010014

BOXER-6639M

Fanless Embedded controller with Intel Core i3/i5/i7 Processors

System Level Product
P5
Compatibility Test Report

Summary	☒ Pass ☐ Fail ☐ Pass with Deviation			
Test Results Category				
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	0
Defect Unsolved	0	0	0	0

Issue date	QE Manager	Test Engineer
2017-06-27	KJ Wang	Leo Liu

Version Released Records

Date	Version	Change History	Note
5/26/2015	C0	1. Add UEFI,GPS,CANBUS,POE, Cold boot test item	
3/22/2016	C1	1. Add issue status 2. Update CTOS devices. 3. Add HDMI 5M cable compatibility test. 4. Modified boot up without display test. 5. Add Touch Function test. 6. Add DC adapter compatibility test 7. Add Windows10 compatibility test. 8. Update Benchmark tool. 9. Update DOS / Windows on/off test rule. 10. Add DDR4 SO-DIMM. 11. Update Linux to Ubuntu16.04 12. Add Stability Test \ Memory test.	
10/21/2016	C2	1. Remove Smartbits test item. 2. Update chapter7.2 \ LVDS type support. 3. Add chapter9.6. System stability after S3 / S4 / S5 cycles	
	C3	1. Modified PWB 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 would be updated when re-test completed in product next change version.

Specification Validation
Main Specification

Item	Specification	Pass	Fail	N/A	Note
		Result			
Processor	Intel Core i7-7700T, Quad Core, 2.9 GHz, 8M cache (TDP: 35W)	☒	☐	☐	
PCH	Q170 (TDP:6W)	☒	☐	☐	
System Memory	2 x DDR4 SO-DIMM socket (double deck) Supports 1866/2133MHz and up to 32GB Support un-buffered and ECC / non-ECC type SODIMM	☒	☐	☐	
Display	VGA x 1 HDMI x2 Support Triple Independent display	☒	☐	☐	
Storage	Onboard Easy Access CFast slot x 1 2.5" SATA Drive bay x 2	☒	☐	☐	
Front I/O panel	Power ON/OFF switch x 1 2 pin Remote power on/off connector Reset switch SYS LED x 1 HDD LED x 1 USB 3.0 x 6 USB 2.0 x 2 CFast slot x 1 SIM card slot x 1 RJ-45 x 3 (A1 SKU) or x 7 (A2 SKU) for GbE (PXE, WoL, Teaming, Jumbo Frame) Audio x1 (Mic-in, Line-out) DB-44 (Female) for 34-bit non-isolation DIO (3.3V) RJ-45 x 4 (A1 SKU) for PoE (802.3af)	☒	☐	☐	
Rear I/O panel	VGA x 1 HDMI x2 DB-9 x 6 for RS-232/422/485 with automatic flow control 3 pin DC Power input x 1 (+, - , GND)	☒	☐	☐	
Expansion	Full-size Mini card x 2 SIM card slot x 1	☒	☐	☐	
Power Supply	3-pin Phoenix DC Input 9~36V, optional 110/230V AC adapter.	☒	☐	☐	

O.S. Support

Item	Specification	Result			Note
		Pass	**Fail**	**N/A**	
Microsoft Windows	Windows 8.1 English 64bit	☒	☐	☐	
	Windows 10 English 64bit	☒	☐	☐	
Linux	TBC	☒	☐	☐	

Platform Information

Item	Device Information	Note
Product of department	SPD	
System Model / Version	BOXER-6639M A1.0	
PCB Board	PBA-SKS01 A1.1	
BIOS / Version	BOXER-6639M R1.0(B639MM10)(06/16/2017)	
Driver folder	20170509	
CPU Type	Intel(R) Core i7-7700T 2.90GHz	
Memory Type	Transcend DDR4-2400 16GB(SEC 622 K4A8G085WB BCRC)	
SATA HDD	TOSHIBA 2.5" 100GB(MQ01AAD0100)	
USB DVD-ROM	Lite-on 8X(eNAU808)	
LCD Monitor	CHIMEI 22"(22SH-L)	
Operating System	☒　　English Ubuntu 16.10 Kernel 4.8.0-22-generic x86_64	
	☒　　Windows 8.1 Enterprise English Version 64Bit	
	☒　　Windows 10 Enterprise English Version 64Bit	
	DC Adapter : FSP 19V(FSP120-ABAN2)	
Chipset Information		
PCH Bridge	Intel Q170	
Super IO Chipset	Fintek 81866D-I	
Audio Chipset	Realtek ALC269	
Ethernet Chipset	Intel I210AT Gigabit LAN	

Summary Table of contents:

1. Hardware Compatibility

1.1. CPU Compatibility Test

CPU Information (Information and frequency should show correct value)	Result			Note
	Pass	Fail	N/A	
Intel(R) Core i7-7700T 2.90GHz	☒	☐	☐	
Intel(R) Core i7-6700TE 2.40GHz	☒	☐	☐	

1.2. Memory Compatibility Test

Memory Information (a. Information and frequency should show correct value. b. System should boot up and into OS normally.)	AAEON P/N	Result			Note
		Pass	Fail	N/A	
DDR4 SO-DIMM					
Innodisk DDR4 2133 16GB SEC K4A8G085WB	N/A	☒	☐	☐	
InnoDisk DDR4-2133 8GB(SEC 446 BCPB K4A4G085WD)	N/A	☒	☐	☐	
Innodisk DDR4 2133 4GB M4S0-4GSSNCRG-26 SEC K4A4G085WD	N/A	☒	☐	☐	
Transcend DDR4 2133 16GB SEC K4A8G085WB	N/A	☒	☐	☐	
Transcend DDR4 2133 8GB TS9AASESD00AA SEC K4A4G085WD	N/A	☒	☐	☐	
Transcend DDR4 2133 4GB TS8AASESD00AA SEC K4A4G085WD	N/A	☒	☐	☐	
DSL DDR4-2133 8GB (SEC K4A4G085WD)	N/A	☒	☐	☐	
DSL DDR4-2133 4GB (SEC K4A4G085WD	N/A	☒	☐	☐	
Transcend DDR4-2400 4GB(SEC 616 K4A4G085WE BCRC)	N/A	☒	☐	☐	
Transcend DDR4-2400 8GB(SEC 616 K4A4G085WE BCRC)	N/A	☒	☐	☐	
Transcend DDR4-2400 16GB(SEC 622 K4A8G085WB BCRC)	N/A	☒	☐	☐	

1.3. SATA Compatibility Test
1.3.1 Onboard SATA(AHCI) Test

SATA Device Information (Information and size should show correct value with IDE and AHCI mode)		AAEON P/N	Result			Note
			Pass	Fail	N/A	
Main Board project test with 80~100cm SATA cable , typical #1709070800						
SATAII	TOSHIBA 2.5" 100GB(MQ01AAD0100)		☒	☐	☐	
SATAII	TOSHIBA 2.5" 320GB(MK3261GSYN)		☒	☐	☐	
SATAII	TOSHIBA 2.5" 500GB(MK5076GSX)		☒	☐	☐	
SSD	Transcend TS32GSSD370 2.5".32GB.SATA III SSD MLC.	968C032G2D	☒	☐	☐	
SSD	Transcend.TS64GSSD370 2.5".64GB. SATA III.SSD.MLC	968C64G003	☒	☐	☐	

			Pass	Fail	N/A	
SSD	Transcend.TS128GSSD370 2.5" SATA3 SSD.128GB.MLC.	968C128G0W	☒	☐	☐	
SSD	2.5" .16GB 3MG2-P 15nm.SATA III MLC SSD.Innodisk MLC .0℃ ~ +70℃.DGS25-16GD81BC3SC-26	AP-SS968C016 G3K	☒	☐	☐	
SSD	(TF)2.5".32GB 3MG2-P 15nm.SATA SSD MLC.0~70°C.HIGH IOPS.innodisk.DGS25-32GD81B C3DC-26	AP-SS968C032 G1P	☒	☐	☐	
SSD	(TF)2.5".64GB.SATA MLC SSD .3MG2-P 15nm.0~70°C.HIGH IOPS.innodisk.DGS25-64GD81B C3QC-26	968C064G39	☒	☐	☐	
SSD	2.5' MLC SSD 128GB 3MG2-P 15nm.SATA 0℃~+70℃.InnoDisk.DGS25-A28 D81BC3QC-26	AP-SS968C128 G1P	☒	☐	☐	
SSD	2.5".256GB.SATA MLC SSD 3MG2-P 15nm.0~70°C.HIGH IOPS.innodisk.DGS25-B56D81BC 3QC-26	AP-SS968C256 G16	☒	☐	☐	

1.4. Flash Card Compatibility Test

CFast Information (a. Information and size should show correct value (b. R/W and HDD LED should work properly)	AAEON P/N	Result			Note
		Pass	**Fail**	**N/A**	
Innodisk 3ME3 128GB DECFA-A28D09BC1DC-26/-26P/-26P2	AP-SS968C128G1 R	☒	☐	☐	
Innodisk 3ME3 64GB DECFA-64GD09BC1DC-26/-26P/-26P2	AP-SS968C064G3 B	☒	☐	☐	
Innodisk 3ME3 32GB DECFA-32GD09BC1DC-26/-26P/-26P2	AP-SS968C032G3 L	☒	☐	☐	
Innodisk 3ME3 16GB DECFA-16GD09BC1SC-26/-26P/-26P2	AP-SS968C016G4 P	☒	☐	☐	
Innodisk 3ME3 8GB DECFA-08GD09BC1SC-26/-26P/-26P2	AP-SS968C008G1 J	☒	☐	☐	

1.5. Monitor Compatibility Test

Monitor Information a. Monitor should display under DOS and OS environment. b. Monitor should not appear ghost or ripples.	Result			Note
	Pass	**Fail**	**N/A**	
VGA				
CHIMEI 22"(22SH-L)	☒	☐	☐	. (at least 3 monitors)
EIZO 23.5"(EV2335W)	☒	☐	☐	
DELL 17"(E178FPc)	☒	☐	☐	
BenQ 17"(Q7T4)	☒	☐	☐	
HDMI (Test with 5M HDMI cable/ Bravo-u)				
*Samsung LU28D	☒	☐	☐	*Must test monitor (Tested 3 monitors at least)
*ASUS VE228	☒	☐	☐	

| CHIMEI 22"(22SH-L) | ☒ | ☐ | ☐ | |
| DELL 24"(P2415Qb) | ☒ | ☐ | ☐ | |

2. Basic Function Test

2.1. Video Function Test

2.1.1. Single Output Function Test

Configuration	
CPU	Intel(R) Core i7-7700T 2.90GHz
Memory	Transcend DDR4-2400 16GB(SEC 622 K4A8G085WB BCRC)
SATA HDD	TOSHIBA 2.5" 100GB(MQ01AAD0100)
VGA	EIZO 23.5"(EV2335W)
HDMI1	CHIMEI 22"(22SH-L)
HDMI1/2	DELL 24"(P2415qB)
Operating system	Windows 10 Enterprise 64bit
Color Quality	☒16bit ☐24bit ☒32bit

Resolution	VGA			HDMI1			HDMI2			LVDS			Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
800X600	☒	☐	☐	☒	☐	☐	☒	☐	☐	☐	☐	☐	
1024X768	☒	☐	☐	☒	☐	☐	☒	☐	☐	☐	☐	☐	
1152X864	☒	☐	☐	☒	☐	☐	☒	☐	☐	☐	☐	☐	
1280X600	☒	☐	☐	☒	☐	☐	☒	☐	☐	☐	☐	☐	
1280X720	☒	☐	☐	☒	☐	☐	☒	☐	☐	☐	☐	☐	
1280X768	☒	☐	☐	☒	☐	☐	☒	☐	☐	☐	☐	☐	
1280X800	☒	☐	☐	☒	☐	☐	☒	☐	☐	☐	☐	☐	
1280X960	☒	☐	☐	☒	☐	☐	☒	☐	☐	☐	☐	☐	
1280X1024	☒	☐	☐	☒	☐	☐	☒	☐	☐	☐	☐	☐	
1360X768	☒	☐	☐	☒	☐	☐	☒	☐	☐	☐	☐	☐	
1366X768	☒	☐	☐	☒	☐	☐	☒	☐	☐	☐	☐	☐	
1400X1050	☒	☐	☐	☒	☐	☐	☒	☐	☐	☐	☐	☐	
1440X900	☒	☐	☐	☒	☐	☐	☒	☐	☐	☐	☐	☐	
1600X900	☒	☐	☐	☒	☐	☐	☒	☐	☐	☐	☐	☐	
1600X1200	☐	☐	☒	☒	☐	☐	☒	☐	☐	☐	☐	☐	
1680X1050	☒	☐	☐	☒	☐	☐	☒	☐	☐	☐	☐	☐	
1920X1080	☒	☐	☐	☒	☐	☐	☒	☐	☐	☐	☐	☐	
1920X1200	☐	☐	☒	☒	☐	☐	☒	☐	☐	☐	☐	☐	
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.

2.1.2. Multi-Display Output Test

Selection	Output	Result			Note
		Pass	Fail	N/A	
Dual Display Clone	VGA + HDMI1	☒	☐	☐	
Extended Desktop		☒	☐	☐	
Dual Display Clone	VGA + HDMI2	☒	☐	☐	
Extended Desktop		☒	☐	☐	
Dual Display Clone	HDMI1 + HDMI2	☒	☐	☐	
Extended Desktop		☒	☐	☐	
Dual Display Clone	VGA + HDMI1 + HDMI2	☒	☐	☐	
Extended Desktop		☒	☐	☐	

2.2. Audio Function Test

〔 〕 No Support

Function Test	Result			Note
	Pass	Fail	N/A	
L (Left) Channel	☒	☐	☐	
R (Right) Channel	☒	☐	☐	
MICROPHONE	☒	☐	☐	
HDMI Audio	☒	☐	☐	

2.3. 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					
OnBoard LAN1	Intel I210 Gigabit Network Connection		MAC Address	00-07-32-41-46-11		
OnBoard LAN2	Intel I210 Gigabit Network Connection		MAC Address	00-07-32-41-46-12		
OnBoard LAN3	Intel I210 Gigabit Network Connection		MAC Address	00-07-32-41-46-13		
OnBoard LAN4	Intel I211 Gigabit Network Connection		MAC Address	00-07-12-34-56-71		
OnBoard LAN5	Intel I211 Gigabit Network Connection		MAC Address	00-07-12-34-56-72		
OnBoard LAN6	Intel I211 Gigabit Network Connection		MAC Address	00-07-12-34-56-73		
OnBoard LAN7	Intel I211 Gigabit Network Connection		MAC Address	00-07-12-34-56-74		

LAN Speed	Link / Speed LED	Active LED	LAN 12/3			LAN 4/5/6/7			Note
			Pass	Fail	N/A	Pass	Fail	N/A	
1000Mbps Ping loss≦1			☒	☐	☐	☒	☐	☐	
100Mbps Ping loss≦1			☒	☐	☐	☒	☐	☐	
10Mbps Ping loss≦1			☒	☐	☐	☒	☐	☐	
Wake On LAN (WOL should work properly when resume from S3/S4/S5)	S3		☒	☐	☐	☐	☐	☒	
	S4		☒	☐	☐	☐	☐	☒	
	S5		☒	☐	☐	☐	☐	☒	
LAN Boot (PXE) (Boot from LAN should work properly)			☒	☐	☐	☐	☐	☒	
Internet Browser (DHCP Server) (Visit the website should work properly)			☒	☐	☐	☒	☐	☐	
Access 1GB file from ftp. (Access file should not stop or error.)			☒	☐	☐	☒	☐	☐	
Iperf $sudo iperf3 –c xx.xx.xx.xx –i 1 – t 60 (Gigabit LAN bandwidth should > 900Mbps)			☒	☐	☐	☒	☐	☐	

2.4. COM Ports Test

Test Item	Result			Note
	Pass	Fail	N/A	
Serial Modem Dial Out	☒	☐	☐	

Serial Modem	Ring In	⊠	☐	☐	Test by Modem
Transmission Test <115200bps / 15M>		⊠	☐	☐	COM1/2/3/4/5/6

2.5. RS-422 / RS-485 Test

Test Item	Result			Note
	Pass	Fail	N/A	
RS-422 for COMx1/2/3/4/5/6	⊠	☐	☐	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 3. Test baud rate is 115200bps
RS-485 for COM1/2/3/4/5/6	⊠	☐	☐	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 1.2km cable on Windows Terminal 2. Confirm RS485 can work properly from G3 status 3. Test baud rate is 115200bps.

2.6. Digital I/O Test

Test item	Result			Note
	Pass	Fail	N/A	
DIO VCC +5V	⊠	☐	☐	

2.7. 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	⊠	☐	☐	⊠	☐	☐	
USB Flash:	Transcend JetFlash 790	⊠	☐	☐	⊠	☐	☐	
	Transcend JetFlash 810	⊠	☐	☐	⊠	☐	☐	
USB DVD ROM:	Lite-on eNAU808	⊠	☐	☐	⊠	☐	☐	
USB keyboard:	Logitech K200	⊠	☐	☐	⊠	☐	☐	
USB mouse:	Logitech M-U0026	⊠	☐	☐	⊠	☐	☐	
USB FDD:	HP FD-05PUB	⊠	☐	☐	⊠	☐	☐	
USB2.0 HUB:	Transcend USB 3.0 4 port HUB	⊠	☐	☐	⊠	☐	☐	

Test item	Result			Note
	Pass	Fail	N/A	
USB3.0 ports with power in S3 mode	⊠	☐	☐	

USB3.0 ports with power in S5 mode	☒	☐	☐

2.8. 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 LAN1	Intel I211 Gigabit Network Connection		MAC Address	00-07-12-34-56-71
POE LAN2	Intel I211 Gigabit Network Connection		MAC Address	00-07-12-34-56-72
POE LAN3	Intel I211 Gigabit Network Connection		MAC Address	00-07-12-34-56-73
POE LAN4	Intel I211 Gigabit Network Connection		MAC Address	00-07-12-34-56-74

Device	POE LED	Active LED	LAN1/2			LAN3/4			Note
			Pass	Fail	N/A	Pass	Fail	N/A	
1000MBps Switch		▬	☒	☐	☐	☒	☐	☐	
100MBps Switch		▬	☒	☐	☐	☒	☐	☐	
10MBps HUB		▬	☒	☐	☐	☒	☐	☐	
POE camera	▬	▬	☒	☐	☐	☒	☐	☐	
Wake On LAN, (WOL should work properly when resume from S3/S4/S5/~~Dos off~~)			☒	☐	☐	☒	☐	☐	
LAN Boot (PXE) (Boot from LAN should work properly)			☒	☐	☐	☒	☐	☐	
Internet Browser (DHCP Server) (Visit the website should work properly)			☒	☐	☐	☒	☐	☐	
Access 1GB file from ftp. (Access file should not stop or error.)			☒	☐	☐	☒	☐	☐	
Iperf $sudo iperf3 –c xx.xx.xx.xx –i 1 – t 60 (Gigabit LAN bandwidth should > 900Mbps 100Mbps LAN bandwidth should> 90Mbps)			☒	☐	☐	☒	☐	☐	
POE camera recoding test over 12 hours. (POE function should work properly during recoding and should not lag.)			☒	☐	☐	☒	☐	☐	
Recorded video files should play normal and not lag.			☒	☐	☐	☒	☐	☐	

2.9. Jumper and Connector Function Test
〔 〕No Support

Test item		Result			Note
		Pass	Fail	N/A	
Clear CMOS will clear CMOS date , time , setting , password.		☒	☐	☐	
Buzzer and 4 pin	System boot: one short beep.	☒	☐	☐	

Speaker test	No memory found: One long beep, two short beep, pause a period of time, and loop.	☒	☐	☐	
Power button	One touch for power on.	☒	☐	☐	
	One touch for power off in BIOS manual.	☒	☐	☐	
	One touch for system shutdown in Windows environment. (power manager need to set "press PWB for shutdown.)	☒	☐	☐	
	＞4sec for H/W shutdown in Windows environment. (power manager need to set "press PWB do nothing.)	☒	☐	☐	
Reset button, system reset under DOS or Windows.		☒	☐	☐	
Power LED behavior	S1(boot up): Power LED on	☒	☐	☐	
	S3: Power LED off	☒	☐	☐	
	S4: Power LED off	☒	☐	☐	
	S5: Power LED off	☒	☐	☐	
HDD LED, active when SATA/CF/CFast/mSATA/M.2	SATA: Active	☒	☐	☐	
	CFast: Active	☒	☐	☐	
AAFP, line out / microphone work properly.		☒	☐	☐	
PS/2 KBMS, keyboard / mouse work properly under DOS and OS .		☒	☐	☐	

3. Expansion card and Application Test

3.1. Expansion Slot Compatibility Test

Test point: Make sure expansion slots are compatible with expansion cards.

PCI-Express x4	Result			Note
	Pass	**Fail**	**N/A**	
PER-T451	☒	☐	☐	

Mini PCI Express Card		Result			Note
		Pass	**Fail**	**N/A**	
Full size	Quectel UC20 3G Card	☒	☐	☐	If M/B support SIM slot PCIE1
Full size	Sierra Wireless AirPrime MC7304 Qualcomm 4G	☒	☐	☐	If M/B support SIM slot 1. Ping 168.95.1.1 for 1000 clcyes, loss<2 times. 2. Download 1GB file from website. PCIE1
Full size	AAEON PER-C11L Gigabit LAN card	☒	☐	☐	PCIE1
Half size	AzureWave AW-NB159H 802.11b/g/n RTL8723BE combo module	☒	☐	☐	PCIE1/2
Half size	AzureWave AW-CB161H 802.11a/b/g/n/ac(PCI-e Wireless+ USB Bluetooth) Realtek RTL8821AE	☒	☐	☐	PCIE1/2
Half size	Bointec DPE909-AA WIFI	☒	☐	☐	PCIE1/2

3.2. Expansion Card Integration Test

Test Item	Result			Note
	Pass	**Fail**	**N/A**	
1. Connect devices to all of expansion slots. 2. No error during OS and driver installation 3. All of expansion cards should work normal.	☒	☐	☐	

4. Power Consumption Test

Configuration	
CPU	Intel(R) Core i7-7700T 2.90GHz
Memory	Transcend DDR4-2400 16GB(SEC 622 K4A8G085WB BCRC)
Storage	TOSHIBA 2.5" 100GB(MQ01AAD0100)
O.S	Windows 10 Enterprise 64bit

4.1. PC Health Status

Test Point:

Voltage deviation: ±5%.

Fan speed deviation: ±10%

CPU DTS Temp deviation: ±15℃

System Temp deviation: ±5℃

H/W monitor	Result			BIOS		Actual		Note
	Pass	Fail	N/A					
(+) 3.3V Actual and monitor must be ±5%	☒	☐	☐	3.376	V	3.3	V	
(+) 12V Actual and monitor must be ±5%	☒	☐	☐	12.144	V	12.1	V	
(+) 5V Actual and monitor must be ±5%	☒	☐	☐	5.045	V	5	V	
(+) 3VSB Actual and monitor must be ±5%	☒	☐	☐	3.360	V	3.3	V	
(+) 5VSB Actual and monitor must be ±5%	☒	☐	☐	5.040	V	5	V	
VBAT Actual and monitor must be ±5%	☒	☐	☐	3.184	V	3.1	V	
CPU DTS Temp Actual and monitor must be ±15℃	☒	☐	☐	45	℃	42	℃	
System Temp Actual and monitor must be ±5℃	☒	☐	☐	45	℃	42	℃	

4.2. Wide Voltage Test

4.2.1. Wide Voltage Test

Test Point:

Test voltage range is follow specification.

Test Environment (a. System should boot properly (b. System wasn't halt in following status.)	DC Power (9V~30V)	Current		Note
Windows 10 with Prime 95 Full Loading Test	Min(+9V)	8.62	A	
	Max(+30V)	1.97	A	
Windows 10 Without running any Software	Min(+9V)	3.04	A	
	Max(+30V)	0.77	A	

4.2.2. DC Adapter Compatibility Test

Test Point:

Confirm each adapter can be compatible with wide voltage design.

Adapter Information (a. System boot to OS should work properly.	AAEON P/N	Result			Note
		Pass	Fail	N/A	

9V	MEANWELL SE-100-9 9V/11.2A	N/A	☒	☐	☐	
12V	FSP084-DIBAN2 84W	1255900841	☒	☐	☐	
12V	FSP084-DMAA1 84W	1757908403	☒	☐	☐	
19V	FSP120-ABAN2 120W	1255901202	☒	☐	☐	
19V	FSP120-AAB 120W	1757912005	☒	☐	☐	
24V	SINPRO MPU100-108 100W	XXXXXXXXX	☒	☐	☐	

4.3. CMOS Battery Test

Test Point: Calculated result should be > 5 years.
Battery: CR2032
Capacity 225mAh

Check item	Measured Voltage		Measured Current		Calculate Result		Result			Note
							Pass	Fail	N/A	
Battery leakage 1. Voltage should be >3V. 2. Calculated result should be > 5 years.	3.19	V	2.5	uA	10.2	years	☒	☐	☐	

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

5. Time Accuracy Test

5.1. System Clock & RTC Clock Test

Under Room Temperature:

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

5.2. Booting Timer Test

Installation	Actual		Note
System Booting Time	5	Sec	Press the Power Button till "Beep" Sound appears

5.3. Watchdog Timer Test

Use Function as below: Hi-Safe20170512

〔　〕No Support.

Time-Out Interval	Criteria	Actual		Result Pass	Fail	N/A	Note
10 sec	+/- 10%	11	Sec	☒	☐	☐	
60 sec	+/- 10%	62	Sec	☒	☐	☐	
255 sec	+/- 10%	264	Sec	☒	☐	☐	

Note : Under Room Temperature:

6. O.S. Compatibility Test

6.1. English Ubuntu16.10 Kernel 4.8.0-22-generic x86_64

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	
English Ubuntu16.10 Kernel 4.8.0-22-generic x86_64	☒	☐	☐	Type uname -a

Test Result:

Test Item	Result			Note
	Pass	Fail	N/A	
Display Function Test				
VGA -- Full Screen	☒	☐	☐	
HDMI1 -- Full Screen	☒	☐	☐	
HDMI2 -- Full Screen	☒	☐	☐	
VGA + HDMI1	☒	☐	☐	
VGA + HDMI2	☒	☐	☐	
VGA + HDMI1 + HDMI2	☒	☐	☐	
Network Function Test				
Connect to Internet – LAN 1/2/3	☒	☐	☐	
Connect to Internet – LAN 4/5/6/7	☒	☐	☐	
Audio Function Test				
Play Audio Function Test	☒	☐	☐	Play Audio Test
HDMI audio function Test	☒	☐	☐	
Base Function Test				
Mouse Test	☒	☐	☐	
Keyboard Test	☒	☐	☐	
Console Redirection	☒	☐	☐	
DVD-ROM Test	☒	☐	☐	<IDE / SATA / USB >
USB 2.0/3.0 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

6.2 Windows 8.1 Enterprise English Version 64Bit

64bit Driver Information	
Chipset Software	Intel(R) Chipset Device Software 10.1.1 2015-06-03
Graphics Media	Microsoft Basic Display Adapter 6.3.9600.16384 6/21/2006
Audio Driver	High Definition Audio Device 6.3.9600.16384 8/22/2013
LAN Driver	Intel(R) I210 Gigabit Network Connection 12.14.7.0 6/18/2015 Intel(R) 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 64bit UEFI mode	☒	☐	☐	

Test Results:

Test Item		Result			Note
		Pass	Fail	N/A	
Single Display					
VGA -- Full Screen		☒	☐	☐	
HDMI1 -- Full Screen		☒	☐	☐	
HDMI2 -- Full Screen		☒	☐	☐	
Multi display		☒	☐	☐	
Basic Function Test					
Usable memory	64bit: 16GB	☒	☐	☐	
USB Mouse and Keyboard		☒	☐	☐	
COM Port Mouse detect		☒	☐	☐	
USB Removable Devices	USB2.0	☒	☐	☐	
	USB3.0	☒	☐	☐	
	Safe to remove icon	☒	☐	☐	
LAN Function Test					
LAN1/2/3 --- Auto		☒	☐	☐	
LAN4/5/6/7 --- Auto		☒	☐	☐	
Audio Function Test					
Line Out Test		☒	☐	☐	
Microphone Test		☒	☐	☐	
Start Menu					
Log off User		☒	☐	☐	
Shut down (S5)		☒	☐	☐	
Restart		☒	☐	☐	
Hibernate (S4)		☒	☐	☐	

6.3 Windows 10 Enterprise English Version 64Bit

64bit Driver Information	
Chipset Software	Intel(R) Chipset Device Software 10.1.1 2015-06-03
Graphics Media	Intel(R) HD Graphics 630 21.20.16.4565 12/10/2016
Audio Driver	Intel(R) Display Audio 10.22.1.97 12/1/2016 Realtek High Definition Audio 6.0.1.8036 1/5/2017
LAN Driver	Intel(R) I210 Gigabit Network Connection 12.15.184.0 8/4/2016 Intel(R) I211Gigabit Network Connection 12.15.184.0 8/4/2016

Install OS to SATA HDD:

Installation	Result			Note
	Pass	Fail	N/A	
English Windows 10 Enterprise 64bit	☒	☐	☐	

Test Results:

Test Item		Result			Note
		Pass	Fail	N/A	
Single Display					
VGA -- Full Screen		☒	☐	☐	
HDMI1 -- Full Screen		☒	☐	☐	
HDMI2 -- Full Screen		☒	☐	☐	
Multi display		☒	☐	☐	VGA+HDMI1+HDMI2
Basic Function Test					
Usable memory	64bit: 16GB	☒	☐	☐	
USB Mouse and Keyboard		☒	☐	☐	
COM Port Mouse detect		☒	☐	☐	
USB 2.0 Removable Devices	USB2.0	☒	☐	☐	
	USB3.0	☒	☐	☐	
	Safe to remove icon	☒	☐	☐	
LAN Function Test					
LAN1/2/3 --- Auto		☒	☐	☐	
LAN4/5/6/7 --- Auto		☒	☐	☐	
Audio Function Test					
Line Out Test		☒	☐	☐	
Microphone Test		☒	☐	☐	
Start Menu					
Log off User		☒	☐	☐	
Shut down (S5)		☒	☐	☐	
Sleep (S3)		☒	☐	☐	
Restart		☒	☐	☐	
Hibernate (S4)		☒	☐	☐	

7. BIOS Function Test

Configuration	
CPU	Intel(R) Core i7-7700T 2.90GHz
Memory	Transcend DDR4-2400 16GB(SEC 622 K4A8G085WB BCRC)
Storage	TOSHIBA 2.5" 100GB(MQ01AAD0100)
O.S	Windows 10 Enterprise 64bit

Test Point:

Confirm BIOS control items are working correctly.

7.1. Advanced Test

Test Item (Following item should work properly)			Result			Note
			Pass	Fail	N/A	
Dynamic Digital IO	DIO1~34		☒	☐	☐	Test under Dos and OS
*S5 RTC Wake up	Wake system with Dynamic time		☒	☐	☐	
	Wake system with fixed time		☒	☐	☐	
*Restore AC Power Loss	Power On		☒	☐	☐	
	Power Off		☒	☐	☐	
	Last State		☒	☐	☐	
*Power Mode	ATX		☒	☐	☐	
	AT	Auto power on	☒	☐	☐	
		PWB no function	☒	☐	☐	
		Disable S3/S4	☒	☐	☐	
		PWR LED and FAN still running when S5 shutdown.	☒	☐	☐	
		Support UEFI and legacy mode.	☒	☐	☐	
*CPU configuration	Information		☒	☐	☐	
	Hyper-threading		☒	☐	☐	Enable/Disable
*SATA configuration	SATA information		☒	☐	☐	
	SATA controller		☒	☐	☐	Enable/Disable
	AHCI mode		☒	☐	☐	
	Hot plug		☒	☐	☐	
USB configuration	Legacy USB Support		☒	☐	☐	
Super IO configuration	Serial port 1		☒	☐	☐	Enable/Disable; RS232/422/485
	Serial port 2		☒	☐	☐	Enable/Disable; RS232/422/485
	Serial port 3		☒	☐	☐	Enable/Disable; RS232/422/485
	Serial port 4		☒	☐	☐	Enable/Disable; RS232/422/485
	Serial port 5		☒	☐	☐	Enable/Disable; RS232/422/485
	Serial port 6		☒	☐	☐	Enable/Disable; RS232/422/485

7.2. Chipset Test

Test Item (Following item should work properly)			Result			Note
			Pass	Fail	N/A	
System Agent (SA) Configuration	Primary Display	Auto	☒	☐	☐	
		IGFX	☒	☐	☐	
	Primary IGFX Boot	VBIOS Default	☒	☐	☐	

			Pass	Fail	N/A	
	Display	CRT	☒	☐	☐	
		HDMI1	☒	☐	☐	
		HDMI2	☒	☐	☐	
	Second IGFX Boot Display	Disable	☒	☐	☐	
		CRT	☒	☐	☐	
		HDMI1	☒	☐	☐	
		HDMI2	☒	☐	☐	
	*Memory Configuration		☒	☐	☐	
	Max TOLUD		☒	☐	☐	Dynamic 1G~3.25G
PCH-IO Configuration	HD Audio		☒	☐	☐	
	PCIe x4 port Speed		☒	☐	☐	
	Mini-Card 1 Gen Speed		☒	☐	☐	
	Mini-Card 2 Gen Speed		☒	☐	☐	

7.3. Boot Test

Test Item (Following item should work properly)	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	☒	☐	☐	

7.4. Clear CMOS and Load Default Test

Test Item (Following item should work properly)		Result			Note
		Pass	Fail	N/A	
Clear CMOS by jumper (under G3 status)		☒	☐	☐	Clear date, time, setting, password
Clear CMOS by remove battery(under G3 stagus)		☒	☐	☐	Clear date, time, setting, password
Load default	Date, time, password should be kept	☒	☐	☐	
	BIOS setting should be restored to default.	☒	☐	☐	
	Boot option priorities should restore from disable to default.	☒	☐	☐	

7.5. AAEON Tag Check Utility

Test Item (Following item should work properly)	Result			Note
	Pass	Fail	N/A	
Check AAEON BIOS OK	☒	☐	☐	AONCHECK.EXE

7.6. Supervisor / User Password Test

Test Item (Following item should work properly)	Result			Note
	Pass	Fail	N/A	
Administrator Password	☒	☐	☐	
User Password	☒	☐	☐	

7.7. Hi-safe Test

Test Item		Result			Note
(Following item should work properly)		Pass	Fail	N/A	
Version(20170512)		☒	☐	☐	
System Information	CPU Information	☒	☐	☐	
	Model Name	☒	☐	☐	
	Display Information	☒	☐	☐	
	RAM Information	☒	☐	☐	Support single DIMM
H/W Monitor	Info	☒	☐	☐	
	Temperature	☒	☐	☐	
	Voltage	☒	☐	☐	
DIO	DIO1~34 High	☒	☐	☐	
	DIO1~34 Low	☒	☐	☐	
WatchDog	10 sec	☒	☐	☐	Actual 11 sec
	1 min	☒	☐	☐	Actual 62 sec
	255 sec	☒	☐	☐	Actual 264 sec
	Auto Reload	☒	☐	☐	
SMBus	Device Address	☒	☐	☐	SMBus Address 0xA0
	Read Byte	☒	☐	☐	Slave Address A0h,A4h
	Read Word	☒	☐	☐	
	Result / Read	☒	☐	☐	

7.8. Negative Test

7.8.1 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	☒	☐	☐	

7.8.2 Suspend S3 Negative Test

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

7.8.3 UEFI Mode Negative Test

Methods	Result			Note
	Pass	Fail	N/A	
1. Install Windows with UEFI mode. 2. Clear CMOS. 3. Confirm BIOS\Boot device was not loss "Windows boot manager" and should boot into Windows properly.	☒	☐	☐	

8. Performance Test

Configuration	
CPU	Intel(R) Core i7-7700T 2.90GHz
Memory	Transcend DDR4-2400 16GB(SEC 622 K4A8G085WB BCRC) x2
Storage	TOSHIBA 2.5" 100GB(MQ01AAD0100)
O.S	Windows 10 Enterprise 64bit

8.1. System Performance Test

Test Result: (Display set 1920*1080 test)

Testing Software	Scope		Note
	AAEON	Ref.	
PCMark 8 (Creative)			Windows 10.1 (64bit)
PCMarks	3161	-	PCMarks
Test duration	55 min 19 s	-	
Web Browsing-Jungle Pin	0.29270 s	-	
Web Browsing-Amazonia	0.12276 s	-	
Video To Go part 1	9.38600 s	-	
Video To Go part 2	11.29200 s	-	
Music To Go	27.52133 s	-	
Video Editing 4k part 1 conventional	14.28264 s	-	
Video Editing 4k part 2 conventional	162.35270 s	-	
Mainstream Gaming part 1	12.12 FPS	-	
Mainstream Gaming part 2	6.20 FPS	-	
Video Group Chat v2- Video Group Chat playback1 v2	30.02 fps	-	
Video Group Chat v2- Video Group Chat playback2 v2	30.01 fps	-	
Video Group Chat v2- Video Group Chat playback3 v2	30.01 fps	-	
Video Group Chat encoding v2	62.00000 ms	-	
Advanced Photo Editing1	0.42903 s	-	
Advanced Photo Editing2	30.49229 s	-	

Testing Software	Scope		Note
	AAEON	Ref.	
3DMark-v2-3-3693			
Sky Diver			
Score	4859	-	
Graphics score	4497	-	
Graphics test 1	20.73 FPS	-	
Graphics test 2	20.35 FPS	-	
Physics score	8580	-	
8 threads	151.09 FPS	-	
24 threads	92.15 FPS	-	
48 threads	52.87 FPS	-	
96 threads	28.83 FPS	-	
Combined score	4646	-	
Combined test	19.12 FPS	-	

Fire Strike		
Score	1150	-
Graphics score	1244	-
Graphics test 1	5.77 FPS	-
Graphics test 2	5.09 FPS	-
Physics score	9196	-
Physics test	29.20 FPS	-
Combined score	400	-
Combined test	1.86 FPS	-

Testing Software	Scope		Note
	AAEON	Ref.	
Performance Test 8.0			
PassMark Rating	1653	-	
CPU Mark	8119	-	
2D Graphics Mark	634	-	
3D Graphics Mark	1260	-	
Memory Mark	2660	-	
Disk Mark	354.6	-	
CD Mark	-	-	

8.2. Storage Performance Test

SATA Performance				
SATA SSD	OCZ 120GB(Vector 150)			
CPU	Intel(R) Core i7-7700T 2.90GHz			
Memory	Transcend DDR4-2400 16GB(SEC 622 K4A8G085WB BCRC)			
OS	Windows 10 Enterprise 64bit			
Item	Comment / (unit)	Software	Score	Note
SATAIII	Maximum Read	ATTO Disk Benchmark	556MB/s	SATAII 150~300MB SATAIII up 300M/B SATA1
	Maximum Write	ATTO Disk Benchmark	443MB/s	

USB3.0/2.0 Performance				
USB Flash	Sony USB3.0 32GB			
Item	Comment / (unit)	Software	Transfer Rate (MB/s)	Note
USB3.0	Maximum Read	ATTO Disk Benchmark	97MB/s	CN15A
	Maximum Write	ATTO Disk Benchmark	90MB/s	
USB3.0	Maximum Read	ATTO Disk Benchmark	97MB/s	CN15B
	Maximum Write	ATTO Disk Benchmark	90MB/s	
USB3.0	Maximum Read	ATTO Disk Benchmark	97MB/s	CN16A
	Maximum Write	ATTO Disk Benchmark	90MB/s	
USB3.0	Maximum Read	ATTO Disk Benchmark	97MB/s	CN16B
	Maximum Write	ATTO Disk Benchmark	90MB/s	
USB2.0	Maximum Read	ATTO Disk Benchmark	40MB/s	CN14A
	Maximum Write	ATTO Disk Benchmark	38MB/s	
USB2.0	Maximum Read	ATTO Disk Benchmark	40MB/s	CN14B
	Maximum Write	ATTO Disk Benchmark	38MB/s	

USB2.0	Maximum Read	ATTO Disk Benchmark	98MB/s	USB1A
	Maximum Write	ATTO Disk Benchmark	90MB/s	
USB2.0	Maximum Read	ATTO Disk Benchmark	97MB/s	USB1B
	Maximum Write	ATTO Disk Benchmark	90MB/s	

CFast Performance				
CFast	Innodisk 3ME3 128GB			
Item	Comment / (unit)	Software	Transfer Rate (MB/s)	Note
CFast	Maximum Read	ATTO Disk Benchmark	231MB/s	
	Maximum Write	ATTO Disk Benchmark	139MB/s	

9. Stability test

Configuration	
CPU	Intel(R) Core i7-7700T 2.90GHz
Memory	Transcend DDR4-2400 16GB(SEC 622 K4A8G085WB BCRC)
Storage	TOSHIBA 2.5" 100GB(MQ01AAD0100)
O.S	Windows 10 Enterprise 64bit

9.1. Run In Test

Under Room Temperature:

OS: Windows 10 Enterprise English 64bit

Test Item		Result			Note
		Pass	Fail	N/A	
Burn In Test V8.1(1020 above) Duty: 100 Time: over 12 hours <System should not error or hang during testing.>	CPU	☒	☐	☐	
	RAM	☒	☐	☐	
	COM	☒	☐	☐	
	GPU	☒	☐	☐	
	Video	☒	☐	☐	
	2D	☒	☐	☐	
	3D	☒	☐	☐	
	Disk	☒	☐	☐	
	Sound	☒	☐	☐	
	Network <Advanced>	☒	☐	☐	
	USB 2.0	☒	☐	☐	
	USB 3.0	☒	☐	☐	

Note: COM PORT Speed Set to 115200.

9.2. Reboot Test

Under Room Temperature:

OS: Windows 8.1 Enterprise English 64bit

Test Tool: Passmark rebooter.exe

Test item	Result			Note
	Pass	Fail	N/A	
Reboot test for 500 cycles <a. System should not error or hang during testing.> <b. Device manager should not loss any devices or yellow bang >	☒	☐	☐	

9.3. ACPI G3 Cold Boot Test

Under Room Temperature:

OS: DOS

Test Point:

1. Make sure system boot up is stable.
2. Make sure boot function support AC power restored in short time.

Test item	Result	Note

	Pass	Fail	N/A	
G3(AC loss) cold boot over 1000 cycles Setting: Power on- 40sec ; Power off-- 20sec. <loss rate: 0 /1000 times>	☒	☐	☐	☒BIOS select " power on" or ☐Jumper setting auto power button
G3(AC loss) cold boot over 20 cycles Setting: Power on- 40sec ; Power off- 5sec. <loss rate: 0 /20 times>	☒	☐	☐	H/W [auto power button] need to set enable..

9.4. ACPI S5 Cold Boot Test

Under Room Temperature:

OS: Windows 10 Enterprise English 64bit

Test item	Result			Note
	Pass	Fail	N/A	
S5(standby power) cold boot over 500 cycles < System should complete 500 cycles without any error or hang.>	☒	☐	☐	1. "PassMark Rebooter" set 500 cycles ; delay 30sec and enable "auto load Rebooter at startup". 2. On/off fixture cycle time to set 150sec.

9.5. Memory Test

Under room temperature:

OS: DOS

Tool: Passmark Memtest version 7.1 UEFI

Memory information: Transcend DDR4 2400 16GB x 2 (SPEC max support size).

Test item	Result			Note
	Pass	Fail	N/A	
Memory Test for 4 loops. < Memtest result should not error or hang..>	☒	☐	☐	

Remark:

9.6. System stability after S3 / S4 / S5 cycles

Under Room Temperature:

OS: Windows 10 Enterprise English 64bit

Test item	Criteria	Result			Note
		Pass	Fail	N/A	
System stability after S3 cycles <Perform S3 cycles 3 times>	1.SUT boots to OS successfully. 2. No yellow bang observed if all the drivers are installed 3.SUT does S3-resume cycles successfully without any issues	☒	☐	☐	
System stability after S4 cycles <Perform S4 cycles 3 times>	1.SUT boots to OS successfully. 2. No yellow bang observed if all the drivers are installed 3.SUT does S4-resume cycles successfully without any issues	☒	☐	☐	
System stability after S5 cycles <Perform S5 cycles 3 times>	1.SUT boots to OS successfully. 2. No yellow bang observed if all the drivers are installed 3.SUT does S5-resume cycles successfully without any issues	☒	☐	☐	

10. Front Panel Button and Mechanical Check

10.1. Front Panel Button Function Test

Test item	Function			Note
	Pass	Fail	N/A	
Power on/off button	☒	☐	☐	
Reset button	☒	☐	☐	

10.2. Mechanical Check

Test Item	Result			Note
	Pass	Fail	N/A	
System Case construction check	☒	☐	☐	
CFast slot construction check	☒	☐	☐	
Expansion slots construction check	☒	☐	☐	
I/O symbol check	☒	☐	☐	