

Report NO: 14I010012

PER-V09V

Mini-PCIe GPU Board

P5 Verification 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

2014/09/05

Approval

Tom Lin

Test Engineer

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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	P2P3-1003	1. New Test Report	
2011/02/23	P2P3-1101	1. Re-composing test Items	
2011/03/04	P2P3-1102	1. Add Specification Validation	
2012/05/29	P2P3-1201	1. Add Summary Table of DTS	
2013/12/6	P2P3-1301	<ol style="list-style-type: none"> 1. Rename document : [System Level Product P2-P3 Verification Test Plan & Report Template] 2. Chapter3:Add RS422 1.2KM/115200bps transmission test 3. Chapter3:BurninTest test add USB2.0/3.0. 4. Chapter5: Modify power consumption test item. 5. Chapter7: add Windows XP Professional English Version 32/64Bit and Windows 8 Pro English Version 32/64Bit test. 6. Chapter8: Change BIOS format from Award to AMI and add Hi-Safe, Hi-Manager test item. 7. Chapter9: Add SATA performance test and USB3.0 performance. 8. Remove Chapter10: Other Tests. 	

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 Verification

Main Specification

Item	Specification	Result			Note
		Pass	Fail	N/A	
GPU	SMI SM750	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Memory	Internal DDR 16MB VRAM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Resolution	Full HD 1920 x1080 (16 bit) 1440 x 960 (32 bit)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Form Factor	Mini-PCIexpress	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Display	Analog VGA (Pin-header) x 1 interface	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Power Consumption	Max 1W	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Dimensions (L x W)	50.95 x 30 mm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

O.S. Support

Item	Specification	Result			Note
		Pass	Fail	N/A	
Microsoft Windows	Windows 8 (32/64 bit)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Windows 7 (32/64 bit)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Linux	Linux Fedora / Ubuntu	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Environmental Specifications

Item	Specification
Operating temperature	32 ~ 140°F (0 ~ 60°C)
Operating humidity	10%~90% relative humidity, non condensing

Note: Please refer Environment Test Report for detail information

Platform Information

Item	Device Information	Test Item
System Model/Version	PER-V09V A0.1	1,2,3
CPU Board	FWS-2160 A0.2	1,2,3
Carrier Board	N/A	N/A
BIOS / Version	FWS-2160 R1.2 (K216AM12) (11/26/2013)	1,2,3
CPU Type	AMD G-T16R Processor 615MHz	1,2,3
Memory Type	Transcend DDR3 1333 DIMM CL9 (SEC 113 HCH9 K4B2G0846C)	1,2,3
SATA HDD	WD WD3200BEVT 2.5" 320GB	1,2,3
SATA DVD-ROM	N/A	N/A
USB DVD-ROM	Pioneer 8X (DVR-XD11T)	1,2,3
LCD Monitor	View Sonic VT-2430-NT monitor	1,2,3
LVDS	N/A	N/A
Operating System	<input checked="" type="checkbox"/> Ubuntu 10.10 Kernel 2.6.35-22-generic #33	2-1
	<input checked="" type="checkbox"/> Windows XP Professional English SP3 32 / 64 Bit	2-2
	<input checked="" type="checkbox"/> Windows 7 Ultimate 32 /64 Bit	2-3
Power Supply	ATX Power Supply : N/A	N/A
	AT Power Supply: N/A	N/A
	DC Adapter : FSP084A-DMAA1 12V / 7A	1,2,3
Chipset Information with Windows 7 Ultimate English SP1 32 Bit Driver Version		
Chipset Software	CATALYST Install Manager 8.0.903.0 11/7/2012	
South Bridge	AMD A50M	
Super IO Chipset	ITE IT8728F	
VGA Chipset	SM718/SM750 - Silicon Motion 6.13.1.66(12/11/2012)	
Audio Chipset	N/A	
Ethernet Chipset	Realtek PCIe GBE Family controller 7.61.612.2012 (6/12/2012)	

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1. Basic Function Test

1. Video Function Test

1.1 Single Output Function Test

Hardware Information with Windows 7 Ultimate English SP1 32 Bit Driver Version										
CPU	AMD G-T16R Processor 615MHz									
Memory	Transcend DDR3 1333 DIMM CL9 (SEC 113 HCH9 K4B2G0846C)									
HDD/CFD	WD WD3200BEVT 2.5" 320GB									
VGA	View Sonic VT-2430-NT monitor									
DVI	N/A									
Color Quality	<input checked="" type="checkbox"/> 16bit <input type="checkbox"/> 24bit <input checked="" type="checkbox"/> 32bit									
Resolution	VGA			DVI			LVDS			Note
	Pass	Fail	N/A	Pass	Fail	N/A	Pass	Fail	N/A	
640X480	<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"/>	
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"/>	
1024X600	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1280X720	<input 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 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"/>	
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"/>	
1360X765	<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"/>	
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"/>	
1400X900	<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"/>	
1440X960	<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 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"/>	
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"/>	(16bit)
1600X1050	<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"/>	
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"/>	(16bit)
1856X1392	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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"/>	(16bit)
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. O.S. Compatibility Test

2.1. English Ubuntu 10.10 Kernel 2.6.35-22-generic #33

Driver Information:

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

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

Installation	Result			Note
	Pass	Fail	N/A	
English Ubuntu 10.10 Kernel 2.6.35-22-generic #33	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Type uname -a

Test Result:

Test Item	Result			Note
	Pass	Fail	N/A	
Display Function Test				
VGA -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
X Windows Application				
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
Command Test On Text Mode: Attention Delay Phenomenon				
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
Halt	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Power Off Mode
ls / clear; cd /dev /ls -l	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Command instruction

2.2. Windows XP Professional English Version 32/64Bit

[X] x32 Driver Information:

Chipset Software	CATALYST Install Manager 08.00.0891
Graphics Media	PCI-1x Graphics card Silicon Motion 6.13.1.33 (8/24/2011)
Audio Driver	N/A
LAN Driver	Realtek PCIe GBE Family controller 5.800.719.2012 (7/19/2012)

[X] x64 Driver Information:

Chipset Software	CATALYST Install Manager 08.00.0891
Graphics Media	PCI-1x Graphics card Silicon Motion 6.13.1.33 (8/24/2011)
Audio Driver	N/A
LAN Driver	Realtek PCIe GBE Family controller 5.800.719.2012 (7/19/2012)

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

Installation	Result			Note
	Pass	Fail	N/A	
English Windows XP Professional ACPI Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Test Results:

Test Item	Result			Note
	Pass	Fail	N/A	
Single Display				
VGA -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot - Windows XP Professional English Version Advanced Options Menu				
Safe Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Start Menu				
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Restart	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hibernate (S4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

2.3. Windows 7 Ultimate English Version 32/64Bit

[X] x32 Driver Information:

Chipset Software	CATALYST Install Manager 8.0.903.0 11/7/2012
Graphics Media	SM718/SM750 - Silicon Motion 6.13.1.66(12/11/2012)
Audio Driver	N/A
LAN Driver	Realtek PCIe GBE Family controller 7.61.612.2012 (6/12/2012)

[X] x64 Driver Information:

Chipset Software	CATALYST Install Manager 8.0.903.0 11/7/2012
Graphics Media	SM718/SM750 - Silicon Motion 6.13.1.66(12/11/2012)
Audio Driver	N/A
LAN Driver	Realtek PCIe GBE Family controller 7.61.612.2012 (6/12/2012)

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"/>	

Test Results:

Test Item	Result			Note
	Pass	Fail	N/A	
Single Display				
VGA -- Full Screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Boot - Windows 7 Ultimate Advanced Options Menu				
Safe Mode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Start Menu				
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Restart	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hibernate (S4)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

3. Performance Test

Hardware Information with Windows 7 Ultimate English Version 32Bit Driver Version	
CPU	AMD G-series T24L 1.00GHz
Memory	Transcend DDR3 1600 8GB SEC K4B4G0846B
HDD	WDC WD1600BEVT 2.5" 5400rpm 160GB

3.1. Performance Test

Test Result: (Display set 1440*960 test)

Testing Software	Scope		Note
	AAEON	Ref.	
PCMark2002			Win7
CPU	N/A	-	
Memory	5343	-	
HDD	3790	-	
Benchmark (A)		-	

Testing Software	Scope		Note
	AAEON	Ref.	
CPUmark99			Windows 7
CPU mark99	81.5	-	

Testing Software	Scope		Note
	AAEON	Ref.	
Performance Test 7.0			
PassMark Rating	311.4	-	
CPU Mark	483.3	-	
2D Graphics Mark	138.1	-	
3D Graphics Mark	N/A	-	
Memory Mark	181.1	-	
Disk Mark	942.4	-	
CD Mark	-	-	

Testing Software	Scope		Note
	AAEON	Ref.	
Windows experience index			Windows 7
Processor	2.8	-	
Memory	4.9	-	
Graphics	1.0	-	
Gaming graphics	1.0	-	
Primary hard disk	5.9	-	