

Report NO: 13P0A0014\_I

# FSP120-AAB of AEC-VS01 Power Electronics Test Report

Summary	<input checked="" type="checkbox"/> <b>Passed</b>			
	<input type="checkbox"/> <b>Failed</b>			
<input type="checkbox"/> <b>Passed with Deviation</b>				
<b>Comment:</b> _____				
Test Result Summary				
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	0
Defect Unsolved	0	0	0	0

Issue date  
**10/02/2013**

Approval  
**Tom Lin**

Test Engineer  
**Sean Hsu**

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**1. Project**

FSP120-AAB AC-DC Adapter for AEC-VS01  
BIOS Rev.R0.1 (AV01AM01)(06/24/2013)

**2. Power Manufacturer**

FSP

**3. Team Member**

PM : Alan Chou ; EE : Peter Yao ; ME : Dana Liu

**4. Test Equipment**

4.1. CPU Board : AAEON , Model : GENE-CV05, Rev.A1.0

4.2. CPU : Intel Atom D2550 1.86GHz

4.3. Memory : SEC , 2GB , M/N : K4B2G0846D

4.4. HDD : Seagate , 80GB , M/N : ST980817SM

4.5. AC Adapter : FSP , Model : FSP120-AAB , O/P : 19V/6.32A , 120Wat

4.6. LCD Monitor : CHIMEI , Model : A170E2-T08

4.7. USB Mouse : LOGITECH , Model : M-BT85

4.8. USB Keyboard : LOGITECH , Model : Y-BL49

**5. AC Adapter Spec**

AC Input : 100VAC~240VAC / 47Hz~63Hz

DC Output : 19Vdc Min Load : 0A ; Max Load : 6.32A / 120W

## 6. Test Item

Test Item	Test Condition / Specification		Sanction	
			Measured	Result
6.1. AC Input Current	I/P:115VAC	1.7A	1.20A	Passed
6.2. MAX Inrush Current	I/P:115VAC	A	15.5A	N/A
	I/P:230VAC	220A	19.3A	Passed
6.3. Input Frequency & Voltage	I/P:90VAC/47HZ	■ON □ OFF	-	Passed
	I/P:90VAC/63HZ	■ON □ OFF	-	Passed
	I/P:264VAC/47HZ	■ON □ OFF	-	Passed
	I/P:264VAC/63HZ	■ON □ OFF	-	Passed
6.4. Switching Test	Switching Time: 0.5 Sec MIN Load / Full Load	@90VAC ■ON □ OFF	-	Passed
	Switching Time: 0.5 Sec MIN Load / Full Load	@115VAC ■ON □ OFF	-	Passed
	Switching Time: 0.5 Sec MIN Load / Full Load	@230VAC ■ON □ OFF	-	Passed
	Switching Time: 0.5 Sec MIN Load / Full Load	@264VAC ■ON □ OFF	-	Passed
6.5. Efficiency	I/P:90VAC FULL LOAD	@86%Min	87.418%	Passed
	I/P:115VAC FULL LOAD	@86%Min	88.977%	Passed
	I/P:230VAC FULL LOAD	@86%Min	89.984%	Passed
	I/P:264VAC FULL LOAD	@86%Min	89.713%	Passed
6.6. Line Regulation	I/P:90VAC~264VAC	<±1%	-0.942%	Passed
6.7. Load Regulation	I/P:115VAC O/P:MINLOAD~FULL LOAD	<±5%	1.12%	Passed
	I/P:230VAC O/P:MINLOAD~FULL LOAD	<±5%	1.71%	Passed
6.8. Over-Voltage Protection	I/P:230VAC O/P:MIN LOAD	V1 : V (MAX)	-	N/A
6.9. Over-Circuit Protection	O/P: 19V	A(MAX)	8.A	Passed
6.10. Over-Load Protection	I/P:90VAC O/P:MIN LOAD	%	126.00%	N/A
	I/P:115VAC O/P:MIN LOAD	%	124.58%	N/A
	I/P:230VAC O/P:MIN LOAD	%	126.41%	N/A
	I/P:264VAC O/P:MIN LOAD	%	122.00%	N/A
6.11. Short Circuit Protect	I/P:115VAC O/P:MIN LOAD	19V&GND Short	-	Passed
	I/P:230VAC O/P:MIN LOAD	19V&GND Short	-	Passed
6.12. Line Voltage Surge	O/P: FULL LOAD	Surge voltage from 132VAC to 147VAC (0.5sec), back to 132VAC		Passed
	O/P: FULL LOAD	Surge voltage from 264VAC to 293VAC (0.5sec), back to 264VAC		Passed

<b>6.13. Line Voltage Sag</b>	O/P: FULL LOAD	Sag voltage from 108VAC to 80VAC (0.5sec), back to 108VAC	-	Passed
	O/P: FULL LOAD	Sag voltage from 198VAC to 161VAC (0.5sec), back to 198VDC	-	Passed
<b>6.14. Ripple &amp; Noise</b>	I/P:115VAC O/P:FULL LOAD	$\leq 300\text{mv}$	125.9mv	Passed
	I/P:230VAC O/P:FULL LOAD	$\leq 300\text{mv}$	116.3mv	Passed
<b>6.15. Setup Time</b>	I/P:115VAC O/P:FULL LOAD	mS(MAX)	184ms	N/A
	I/P:230VAC O/P:FULL LOAD	mS(MAX)	182ms	N/A
<b>6.16. Hold up Time</b>	I/P:115VAC O/P:FULL LOAD	8mS(MIN)	33.1ms	Passed
	I/P:230VAC O/P:FULL LOAD	8mS(MIN)	80ms	Passed
<b>6.17. Rise Time</b>	I/P:115VAC O/P:FULL LOAD	mS(MAX)	22.59ms	N/A
	I/P:230VAC O/P:FULL LOAD	mS(MAX)	11.22ms	N/A
<b>6.18. Turn on Overshoot</b>	Turn on overshoot shall not exceed 5% over nominal voltages@ 20 % LOAD		-	Passed
	Turn on overshoot shall not exceed 5% over nominal voltages@ 20 % LOAD		-	Passed
<b>6.19. Turn off Undershoot</b>	Turn off undershoot shall not exceed 5% over nominal voltages@ 20 % LOAD		-	Passed
	Turn off undershoot shall not exceed 5% over nominal voltages@ 20 % LOAD		-	Passed

<b>6.20. Remote ON/OFF</b>	Simulate TTL signal to test this function		-	
<b>6.21. Power Good Signal</b>	Shall go high level with a delay of 100~500ms		-	
<b>6.22. Power On In Low Temperature</b>	I/P:115VAC ( °C) After 2HR Power On		-	
<b>6.23. Power On In High Temperature</b>	I/P:115VAC ( °C)After 2HR Power On		-	
<b>6.24. Power Consumption Test with DC Power</b>	No Run Prime95	I/P:12VDC 1.65A 19.8W	Passed	
	No RunPrme95 +LAN POE ON	I/P:12VDC 5.14A 61.68W	Passed	
	Run Prime95	I/P:12VDC 1.66A 19.92W	Passed	
	Run Prme95 +LAN POE ON	I/P:12VDC 5.15A 61.8W	Passed	
	No Run Prime95	I/P:24VDC 0.81A 19.44W	Passed	
	No Run Prme95 +LAN POE ON	I/P:24VDC 2.3A 55.2W	Passed	
	Run Prime95	I/P:24VDC 0.82A 19.68W	Passed	
	Run Prme95 +LAN POE ON	I/P:24VDC 2.35A 56.4W	Passed	
	No Run Prime95	I/P:30VDC 0.62A 18.6W	Passed	
	NoRunPrme95 +LAN POE ON	I/P:30VDC 1.83A 54.9W	Passed	
	Run Prime95	I/P:30VDC 0.63A 18.9W	Passed	
	RunPrme95 +LAN POE ON	I/P:30VDC 1.86A 55.8W	Passed	
<b>6.25. Power Consumption Test with AC Adapter</b>	No Run Prime95	I/P:100VAC 0.22A 23.8W	O/P: 19V/1.02A 19.38W	Passed
	No RunPrme95 +LAN POE ON	I/P:100VAC 0.33A 72.2W	O/P: 19V/2.97A 56.43W	Passed
	Run Prime95	I/P:100VAC 0.24A 25W	O/P: 19V/1.05A 19.95W	Passed
	RunPrme95 +LAN POE ON	I/P:100VAC 0.34A 73.3W	O/P: 19V/2.99A 56.81W	Passed