

Report NO: 11P0A0007\_I

# FSP120-AAB of AEC-6635 Power Electronics Test Report

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

Issue date	Approval	Test Engineer
<b>05/26/2011</b>	<b>Jansin Lee</b>	<b>Sean Hsu</b>

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## 1. Project

FSP120-AAB AC-DC Adapter for AEC-6635 BIOS Rev.1.0.1(03/23/2011)

## 2. Power Manufacturer

FSP

## 3. Team Member

PM : Owen Huang ; PPC H/W : Iko Huang

## 4. Test Equipment

4.1. CPU Board : EPIC-QM57 REV.A1.0

4.2. CPU : Intel Core i7-620 M 2.66GHz

4.3. DC-DC Power Board : PER-P17D A1.0

4.4. Memory : DSL DDR3-1066 4GB

4.5. HDD : TOSHIBA , MK1665GSX , 160GB

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

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

4.8. USB Mouse : Logitech , Model : M-BT85

4.9. USB Keyboard : Logitech , Model : Y-BL49

## 5. AC Adapter Spec

AC Input : 90VAC~264VAC / 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	1.54A	PASS
6.2. MAX Inrush Current	I/P:115VAC	A	11.8A	-
	I/P:230VAC	220A	18.5A	PASS
6.3. Input Frequency & Voltage	I/P:90VAC/47HZ	■ON □ OFF	-	PASS
	I/P:90VAC/63HZ	■ON □ OFF	-	PASS
	I/P:264VAC/47HZ	■ON □ OFF	-	PASS
	I/P:264VAC/63HZ	■ON □ OFF	-	PASS
6.4. Switching Test	Switching Time: 0.5 Sec MIN Load / Full Load	@90VAC ■ON □ OFF	-	PASS
	Switching Time: 0.5 Sec MIN Load / Full Load	@115VAC ■ON □ OFF	-	PASS
	Switching Time: 0.5 Sec MIN Load / Full Load	@230VAC ■ON □ OFF	-	PASS
	Switching Time: 0.5 Sec MIN Load / Full Load	@264VAC ■ON □ OFF	-	PASS
6.5. Efficiency	I/P:90VAC FULL LOAD	@86%Min	86.682%	PASS
	I/P:115VAC FULL LOAD	@86%Min	88.151%	PASS
	I/P:230VAC FULL LOAD	@86%Min	89.430%	PASS
	I/P:264VAC FULL LOAD	@86%Min	89.152%	PASS
6.6. Line Regulation	I/P:90VAC~264VAC	<±1%	0.45%	PASS
6.7. Load Regulation	I/P:115VAC O/P:MINLOAD~FULL LOAD	<±5%	1.12%	PASS
	I/P:230VAC O/P:MINLOAD~FULL LOAD	<±5%	1.48%	PASS
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)	8.60A	PASS
6.10. Over-Load Protection	I/P:90VAC O/P:MIN LOAD	%	136.52%	-
	I/P:115VAC O/P:MIN LOAD	%	134.48%	-
	I/P:230VAC O/P:MIN LOAD	%	150.51%	-
	I/P:264VAC O/P:MIN LOAD	%	151.52%	-
6.11. Short Circuit Protect	I/P:115VAC O/P:MIN LOAD	19V&GND Short	-	PASS
	I/P:230VAC O/P:MIN LOAD	19V&GND Short	-	PASS
6.12. Line Voltage Surge	O/P: FULL LOAD	Surge voltage from 132VAC to 147VAC (0.5sec), back to 132VAC		PASS
	O/P: FULL LOAD	Surge voltage from 264VAC to 293VAC (0.5sec), back to 264VAC		PASS

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<b>6.13. Line Voltage Sag</b>	O/P: FULL LOAD	Sag voltage from 108VAC to 80VAC (0.5sec), back to 108VAC	-	PASS
	O/P: FULL LOAD	Sag voltage from 198VAC to 161VAC (0.5sec), back to 198VDC	-	PASS
<b>6.14. Ripple &amp; Noise</b>	I/P:115VAC O/P:FULL LOAD	≤ 300mv	122.9mv	PASS
	I/P:230VAC O/P:FULL LOAD	≤ 300mv	108.3mv	PASS
<b>6.15. Setup Time</b>	I/P:115VAC O/P:FULL LOAD	mS(MAX)	178ms	-
	I/P:230VAC O/P:FULL LOAD	mS(MAX)	175.75ms	-
<b>6.16. Hold up Time</b>	I/P:115VAC O/P:FULL LOAD	8mS(MIN)	32.1ms	PASS
	I/P:230VAC O/P:FULL LOAD	8mS(MIN)	27.8ms	PASS
<b>6.17. Rise Time</b>	I/P:115VAC O/P:FULL LOAD	mS(MAX)	12.5ms	-
	I/P:230VAC O/P:FULL LOAD	mS(MAX)	12.8ms	-
<b>6.18. Turn on Overshoot</b>	Turn on overshoot shall not exceed 10% over nominal voltages@ 20 % LOAD		-	PASS
	Turn on overshoot shall not exceed 10% over nominal voltages@ 20 % LOAD		-	PASS
<b>6.19. Turn off Undershoot</b>	Turn off undershoot shall not exceed 10% over nominal voltages		-	PASS
	Turn off undershoot shall not exceed 10% over nominal voltages		-	PASS
<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 of100~500ms		-	-
<b>6.22. Power Consumption Test With DC Power</b>	No Run Prime95	I/P:9VDC 1.75A 15.75W		PASS
	Run Prime95	I/P:9VDC 4.06A 36.54W		PASS
	No Run Prime95	I/P:30VDC 0.56A 17W		PASS
	Run Prime95	I/P:30VDC 1.12A 34.3W		PASS
<b>6.23. Power Consumption Test With Adapter</b>	No Run Prime95	I/P:100VAC 0.18A 17.9W	O/P: 19V/0.75A	PASS
	Run Prime95	I/P:100VAC 0.34A 35.0W	O/P: 19V/1.58A	PASS