

Report NO: 13P0A0011_I

FSP120-AHAN1

of

AEC-6647

Power Electronics Test Report

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

Issue date
08/12/2013

Approval
Tom Lin

Test Engineer
Sean Hsu

Table of Contents

1. Project	3
2. Power Manufacturer	3
3. Team Member	3
4. Test Equipment	3
5. AC Adapter Spec	3
6. Test Item	4
6.1. AC Input Current	4
6.2. MAX Inrush Current	4
6.3. Input Frequency & Voltage	4
6.4. Switching Test	4
6.5. Efficiency	4
6.6. Line Regulation	4
6.7. Load Regulation	4
6.8. Over-Voltage Protection	4
6.9. Over-Circuit Protection	4
6.10. Over-Load Protection	4
6.11. Short Circuit Protect	4
6.12. Line Voltage Surge	5
6.13. Line Voltage Sag	5
6.14. Ripple & Noise	5
6.15. Setup Time	5
6.16. Hold up Time	5
6.17. Rise Time	5
6.18. Turn on Overshoot	5
6.19. Turn off Undershoot	5
6.20. Remote ON/OFF	5
6.21. Power Good Signal	5
6.22. System Power Consumption Test	5

1. Project

FSP120-AHAN1 AC-DC Adapter for AEC-6647

2. Power Manufacturer

FSP

3. Team Member

PM : Jackie Huang ; H/W : Sion Weng

4. Test Equipment

4.1. CPU Board : AAEON , EMB-B75A REV.A1.02

4.2. CPU : INTEL , Core I7-3770S 3.1GHz

4.3. HDD : TOSHIBA , MK1060GSC , 100GB

4.4. Memory : DSL , DDR3- 1333 , 8GB*2

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

4.6. Power Supply : FSP , Model : FSP120-AHAN1 , O/P : 12V/10A , 120Watt

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

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

5. AC Adapter Spec

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

DC Output : 12Vdc Min Load : 0A Full Load : 10A / 120W

6. Test Item

Test Item	Test Condition / Specification		Sanction	
			Measured	Result
6.1. AC Input Current	I/P:100VAC	2A	1.44A	Passed
6.2. MAX Inrush Current	I/P:100VAC	A	8.12A	-
	I/P:240VAC	A	11.8A	-
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:100VAC O/P:10A	@86%Min	87.24%	Passed
	I/P:240VAC O/P:10A	@87%Min	89.51%	Passed
6.6. Line Regulation	I/P:90VAC~264VAC	<5%	0.66%	Passed
6.7. Load Regulation	I/P:100VAC O/P:MIN~FULL LOAD	<5%	1/-2.6%	Passed
	I/P:240VAC O/P:MIN~FULL LOAD	<5%	1.02/-1.8%	Passed
6.8. Over-Voltage Protection	I/P:230VAC O/P:MIN LOAD	V1 : 17 (MAX)	-	-
6.9. Over-Circuit Protection	O/P: 12V	A(MAX)	13.5A	-
6.10. Over-Load Protection	I/P:100VAC O/P:MIN LOAD	%	115%	-
	I/P:240VAC O/P:MIN LOAD	%	135%	-
6.11. Short Circuit Protect	I/P:100VAC O/P:MIN LOAD	12V&GND Short	-	Passed
	I/P:240VAC O/P:MIN LOAD	12V&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
6.13. Line Voltage Sag	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 198VAC	-	Passed
6.14. Ripple & Noise	I/P:100VAC O/P:FULL LOAD	$\leq 380\text{mv}$	147mv	Passed
	I/P:240VAC O/P:FULL LOAD	$\leq 380\text{mv}$	143mv	Passed
6.15. Setup Time	I/P:100VAC O/P:FULL LOAD	3S(MAX)	982.5ms	Passed
	I/P:240VAC O/P:FULL LOAD	mS(MAX)	513ms	Passed
6.16. Hold up Time	I/P:100VAC O/P:FULL LOAD	5mS(MIN)	12.55ms	Passed
	I/P:240VAC O/P:FULL LOAD	mS(MIN)	26.75ms	Passed
6.17. Rise Time	I/P:100VAC O/P:FULL LOAD	50mS(MAX)	8.34ms	Passed
	I/P:240VAC O/P:FULL LOAD	mS(MAX)	8.305ms	Passed
6.18. Turn on Overshoot	Turn on overshoot shall not exceed 10% over nominal voltages@ 20 % LOAD		-	Passed
	Turn on overshoot shall not exceed 10% over nominal voltages@ 20 % LOAD		-	Passed
6.19. Turn off Undershoot	Turn off undershoot shall not exceed 10% over nominal voltages		-	Passed
	Turn off undershoot shall not exceed 10% over nominal voltages		-	Passed
6.20. Remote ON/OFF	Simulate TTL signal to test this function		-	-
6.21. Power Good Signal	Shall go high level with a delay of 100~500ms		-	-
6.22. System Power Consumption Test	No Run Prime95	I/P:100VAC 0.26A 25.3W	O/P: 12V/1.78A 21.36W	Passed
	Run Prime95	I/P:100VAC 0.89A 90.1W	O/P: 12V/6.88A 82.56W	Passed