

FSP036-1AD101C of AEC-6831
Power Electronics Test Report

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Wenyuan Yang

Approved By

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Date

Sean Hsu

Issued By

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1. Project

FSP036-1AD101C AC-DC Power for AEC-6831

2. Power Manufacturer

FSP GROUP INC.

3. Team Member

PM : Linux Wang ; PPC H/W : Kevin Liu

4. Test Equipments

- 4.1. CPU : Intel ATOM N270 1.6GHz
- 4.2. Memory : DSL 512MB DDR2-667MHZ/ELPIDA E5108AJBG-6E-E
- 4.3. HDD : Fujitsu MHZ2080BH 80GB
- 4.4. AC Adapter : FSP036-1AD101C O/P: 12V/3A

5. Photos of Product

Fig.5.1. —EUT&AC Adapter



6. Test Item

Test Item	Test Condition / Specification		Sanction	
			Measured	Result
6.1. AC Input Current	I/P:90VAC	A	0.8A	-
6.2. MAX Inrush Current	I/P:115VAC	15A	5.06A	PASS
	I/P:230VAC	30A	8.12A	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	@75%Min	82.879%	PASS
	I/P:115VAC FULL LOAD	@75%Min	84.007%	PASS
	I/P:230VAC FULL LOAD	@75%Min	84.792%	PASS
	I/P:264VAC FULL LOAD	@75%Min	83.799%	PASS
6.6. Line Regulation	I/P:90VAC~264VAC	<±1%	0.042%	PASS
6.7. Load Regulation	I/P:115VAC O/P:MINLOAD~FULL LOAD	<±3%	2.625/0.808	PASS
	I/P:230VAC O/P:MINLOAD~FULL LOAD	<±3%	2.6/0.808	PASS
6.8. Over-Voltage Protection	I/P:230VAC O/P:MIN LOAD	V1 : 13.44~15.84MAX)	-	-
6.9. Over-Circuit Protection	O/P: 12V	-(MAX)	-	-
6.10. Over-Load Protection	I/P:90VAC O/P:MIN LOAD	110~150%	130.2	PASS
	I/P:115VAC O/P:MIN LOAD	110~150%	128.4	PASS
	I/P:230VAC O/P:MIN LOAD	110~150%	128.5	PASS
	I/P:264VAC O/P:MIN LOAD	110~150%	128.3	PASS
6.11. Short Circuit Protect	I/P:115VAC O/P:MIN LOAD	12V&GND Short	-	PASS
	I/P:230VAC O/P:MIN LOAD	12V&GND Short	-	PASS
6.12. Line Voltage Surge	O/P: FULL LOAD	Surge voltage from 132VAC to 147VAC (0.5sec), back to 132VDC	-	PASS
	O/P: FULL LOAD	Surge voltage from 264VAC to 293VAC (0.5sec), back to 264VAC	-	PASS
6.13. Line Voltage Sag	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
6.14. Ripple & Noise	I/P:115VAC O/P:FULL LOAD	≤120mv	78.1 mv	PASS
	I/P:230VAC O/P:FULL LOAD	≤120mv	76.6mv	PASS
6.15. Setup Time	I/P:115VAC O/P:FULL LOAD	S(MAX)	1.021S	-
	I/P:230VAC O/P:FULL LOAD	S(MAX)	402mS	-
6.16. Hold up Time	I/P:115VAC O/P:FULL LOAD	6mS(MIN)	20.85mS	PASS
	I/P:230VAC O/P:FULL LOAD	6mS(MIN)	96.5mS	PASS
6.17. Rise Time	I/P:115VAC O/P:FULL LOAD	mS(MAX)	17.55mS	-
	I/P:230VAC O/P:FULL LOAD	mS(MAX)	17.15mS	-
6.18. Turn on Overshoot	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

6.19. Turn off Undershoot	Turn off undershoot shall not exceed 10% over nominal voltages		-	PASS
	Turn off undershoot shall not exceed 10% over nominal voltages		-	PASS
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. Power On In Low Temperature	I/P: 115VAC (0°C) After 2HR Power On			-
6.23. Power On In High Temperature	I/P: 115VAC (50°C) After 2HR Power On			-
6.24. Room Burn-in test	I/P: 115VAC O/P: FULL LOAD TA: 25°C BURN-IN DURATION : 2 hour			PASS
6.25. On/Off Cycling	Times / on: 20 sec / off: 10 sec			-
6.26. System Power Consumption Test (DC-DC Power Board)	No Run Prime95	I/P: 9VDC 1.18A 10.62W		PASS
	Run Prime95	I/P: 9VDC 1.47A 13.23W		PASS
	No Run Prime95	I/P: 30VDC 0.39A 11.7W		PASS
	Run Prime95	I/P: 30VDC 0.5A 15W		PASS
6.26. Adapter Power Consumption Test	No Run Prime95	I/P: 100VAC 0.27A 13.2W	O/P: 12V/0.83A	PASS
	Run Prime95	I/P: 100VAC 0.33A 16.4W	O/P: 12V/1.05A	PASS
	No Run Prime95	I/P: 240VAC 0.15A 13.7W	O/P: 12V/0.82A	PASS
	Run Prime95	I/P: 240VAC 0.18A 16.7W	O/P: 12V/1.05A	PASS

7. Test Result and Observation

No fault was found during the test