

EA1050A-120 of AEC-6420
Power Electronics Test Report

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Approved By

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Date

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1. Project

EA1050A-120 AC-DC Adapter for AEC-6420

2. Power Manufacturer

EDACPOWER ELEC.

3. Team Member

PM : Linux Wang ; RD : Peter Yao

4. Test Equipment

4.1.CPU Board : EPIC-9457 , Rev.A1.0

4.2.CPU type : Intel Atom N270 1.6GHz

4.3.DSL 1GB / ELPIDA E5108AGBG-6E-E (DDR2-667)

4.4. CF Card : Transcend , 4GB

4.5.AC/DC Power Supply : EDACPOWER , M/N : EA1050A-120 60Watt O/P : 12V/5A

5. Photos of Product

Fig.5.1. —System Photo



6. Test Item

Test Item	Test Condition / Specification		Sanction		
			Measured	Result	
6.1. AC Input Current	I/P:90VAC	O/P: Full LOAD	A	1.38A	PASS
6.2. MAX Inrush Current	I/P:115VAC	O/P :Full LOAD	A	9.06A	PASS
	I/P:230VAC	O/P :Full LOAD	A	9.69A	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	78@%Min		86.369%	PASS
	I/P:115VAC FULL LOAD	78@%Min		87.905%	PASS
	I/P:230VAC FULL LOAD	78@%Min		88.857%	PASS
	I/P:264VAC FULL LOAD	78@%Min		87.224%	PASS
6.6. Line Regulation	I/P:90VAC~264VAC	<±1%		0.167%	PASS
6.7. Load Regulation	I/P:115VAC O/P:MINLOAD~FULL LOAD	<±5%		4.89	PASS
	I/P:230VAC O/P:MINLOAD~FULL LOAD	<±5%		4.67	PASS
6.8. Over-Voltage Protection	I/P:230VAC O/P:MIN LOAD	V1 : (MAX)		-	-
6.9. Over-Circuit Protection	O/P: 12V	A(MAX)		6.4A	-
6.10. Over-Load Protection	I/P:90VAC O/P:MIN LOAD	%		128	-
	I/P:115VAC O/P:MIN LOAD	%		127	-
	I/P:230VAC O/P:MIN LOAD	%		126	-
	I/P:264VAC O/P:MIN LOAD	%		128	-
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	≤ 144mv		7.8	PASS
	I/P:230VAC O/P:FULL LOAD	≤ 144mv		13.4	PASS
6.15. Setup Time	I/P:115VAC O/P:FULL LOAD	mS(MAX)		3.05S	-
	I/P:230VAC O/P:FULL LOAD	mS(MAX)		1.22S	-
6.16. Hold up Time	I/P:115VAC O/P:FULL LOAD	mS(MIN)		12.75	-
	I/P:230VAC O/P:FULL LOAD	mS(MIN)		65.2	-
6.17. Rise Time	I/P:115VAC O/P:FULL LOAD	mS (MAX)		5.35	-
	I/P:230VAC O/P:FULL LOAD	mS(MAX)		5.32	-
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 (40°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 Power IN)	No Run Prime95	I/P: 9.5VDC 1.56A 15.6W		PASS
	Run Prime95	I/P: 9.5VDC 1.99A 19.2W		PASS
	No Run Prime95	I/P: 19VDC 0.84A 15.5W		PASS
	Run Prime95	I/P: 19VDC 1.05A 19.6W		PASS
6.27. Adapter Power Consumption Test	No Run Prime95	I/P: 90VAC 0.38A 17.5W	O/P: 12V/1.2A	PASS
	Run Prime95	I/P: 90VAC 0.53A 25.3W	O/P: 12V/1.67A	PASS

7. Test Result and Observation

No fault was found during the test