

MPU100-108 of FOX-81
Power Electronics Test Report

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Table of Contents

1. Project	3
2. Power Manufacturer	3
3. Team Member	3
4. Test Equipment	3
5. Photos of Product	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	4
6.13. Line Voltage Sag	4
6.14. Ripple & Noise	4
6.15. Setup Time	4
6.16. Hold up Time	4
6.17. Rise Time	4
6.18. Turn on Overshoot	4
6.19. Turn off Undershoot	5
6.20. Remote ON/OFF	5
6.21. Power Good Signal	5
6.22. Power On In Low Temperature	5
6.23. Power On In High Temperature	5
6.24. Room Burn-in test	5
6.25. On/Off Cycling	5
6.26. Power Consumption Test TO PER-P15D	5
6.27. Power Consumption Test TO AC Adapter	5
7. Test Result and Observation	5

1. Project

MPU100-108 AC-DC Adapter for FOX-81

2. Power Manufacturer

SINPRO

3. Team Member

PM : Owen Huang ; PPC H/W : Peter Yao

4. Test Equipment

4.1. CPU Board : GENE-9455 REV.A1.0

4.2. DC-DC Power Board : PER-P15D REV.A1.0

4.3. CPU : Intel Atom N270 1.6GHz

4.4. Memory : DSL 512MB DDR2- 667MHZ / ELPIDA E5108A-6EE

4.5. CFD : Transcend 4GB For Industrial TS4GCF133

4.6. AC/DC Power Supply : SINPRO POWER , M/N : MPU100-108 100Watt O/P : 24V/4.16A

5. Photos of Product

Fig.5.1. —Panel PC&AC Adapter



6. Test Item

Test Item	Test Condition / Specification		Sanction	
			Measured	Result
6.1. AC Input Current	I/P:90VAC	A	1.32A	-
6.2. MAX Inrush Current	I/P:115VAC	15A	13.4A	PASS
	I/P:230VAC	30A	25.9A	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	83.820%	PASS
	I/P:115VAC FULL LOAD	@75%Min	85.401%	PASS
	I/P:230VAC FULL LOAD	@75%Min	85.548%	PASS
	I/P:264VAC FULL LOAD	@75%Min	84.892%	PASS
6.6. Line Regulation	I/P:90VAC~264VAC	<±1%	0%	PASS
6.7. Load Regulation	I/P:115VAC O/P:MINLOAD~FULL LOAD	<±2%	0.779/-0.263	PASS
	I/P:230VAC O/P:MINLOAD~FULL LOAD	<±2%	0.779/-0.263	PASS
6.8. Over-Voltage Protection	I/P:230VAC O/P:MIN LOAD	V1 : 26.88~31.68MAX)	-	-
6.9. Over-Circuit Protection	O/P: 24V	-(MAX)	6.16	-
6.10. Over-Load Protection	I/P:90VAC	110~150%	148.5	PASS
	I/P:115VAC	110~150%	147.6	PASS
	I/P:230VAC	110~150%	148.4	PASS
	I/P:264VAC	110~150%	149.4	PASS
6.11. Short Circuit Protect	I/P:115VAC O/P:MIN LOAD	24V&GND Short	-	PASS
	I/P:230VAC O/P:MIN LOAD	24V&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	≤240mv	21.09 mv	PASS
	I/P:230VAC O/P:FULL LOAD	≤240mv	19.84 mv	PASS
6.15. Setup Time	I/P:115VAC O/P:FULL LOAD	2S(MAX)	593 mS	PASS
	I/P:230VAC O/P:FULL LOAD	2S(MAX)	706.0 mS	PASS
6.16. Hold up Time	I/P:115VAC O/P:FULL LOAD	16mS(MIN)	27.0 mS	PASS
	I/P:230VAC O/P:FULL LOAD	16mS(MIN)	53.7 mS	PASS
6.17. Rise Time	I/P:115VAC O/P:FULL LOAD	mS(MAX)	57.0 mS	-
	I/P:230VAC O/P:FULL LOAD	mS(MAX)	35.3 mS	-
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. Power Consumption Test TO PER-P15D (DC-DC Power Board)	No Run Prime95	I/P: 9VDC 1.46A 13.14W		PASS
	No Run Prime95	I/P: 30VDC 0.45A 13.5W		PASS
	Run Prime95	I/P: 9VDC 1.78A 16.02W		PASS
	Run Prime95	I/P: 30VDC 0.55A 16.5W		PASS
6.27. Power Consumption Test TO AC Adapter	No Run Prime95	I/P: 100VAC 0.2A 19.7W	O/P: 24V/0.58A	PASS
	Run Prime95	I/P: 100VAC 0.23A 23.2W	O/P: 24V/0.72A	PASS

7. Test Result and Observation

No fault was found during the test