Report NO: 13I0A0014_I

FSP250-50LC
of
FWS-7810
Power Electronics Test Report

Summary	☑ **Pass** ☐ **Fail** **Note : There are 0 defect(s) not list in the report, please check it in the DTS Website.** ☐ **Pass with Deviation** **Comment:** _____

Test Result Summary

	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	0
Defect Unsolved	0	0	0	0

Issue date	Approval	Test Engineer
12/11/2013	**Tom Lin**	**Sean Hsu**

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1. Project

FSP250-50LC AC-DC Power Supply for FWS-7810

2. Power Manufacturer

FSP

3. Team Member

Randy Chang；H/W：Steven Yu

4. Test Equipment

5.1. LCD Monitor：DELL，Model：U2410W
5.2. LAN：Ethernet Cable Ping To CCS Lab
5.3. USB Mouse：Logitech，Model：M-BT85
5.4. USB Keyboard：Logitech，Model：Y-BL49
5.5. CPU Board：AAEON，FWB-7810 REV.A1.0
5.6. CPU：INTEL，Xeon E3-1725 3.5GHz
5.7. HDD：TOSHIBA，MK3276GSX，320GB*2
5.8. Memory：Transcend，DDR3-1600 8GB*4
5.9. LAN Riser Card：AAEON，PER-T281
5.10. Power Supply：FSP，M/N：FSP250-50LC，O/P：250Watt

5. AC Adapter Spec

4.1.1. OUTPUT RATING

Output	Nominal	Regulation	Ripple/Noise	Min	Max
1	+3.3V	±5%	50mV	0.3A	12.0 A
2	+5V	±5%	50mV	0.5A	14.0 A
3	+12V	±5%	120mV	0.8A	18.0 A
4	-12V	±10%	120mV	0.0 A	0.3A
5	+5VSB	±5%	50mV	0.0 A	2.5A

※ −12V,+3.3V, +5V,+12V will have the regulation to ±10% when all load take off.

4.4. EFFICIENCY

	Full load (100%)	Typical load (50%)	Light load (20%)
115VAC	82%	85%	82%
230VAC	82%	85%	82%

(loading shown in Amps)

Loading	+12V	+5V	+3.3V	-12V	+5Vsb
Full (100%)	14.42	8.19	7.02	0.24	2.00
Typical (50%)	7.21	4.09	3.51	0.12	1.00
Light (20%)	2.88	1.64	1.40	0.05	0.40

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6. Test Item

Test Item	Test Condition / Specification		Sanction	
			Measured	Result
6.1. AC Input Current	I/P:115VAC	4A	2.65A	PASS
6.2. MAX Inrush Current	I/P:115VAC	A	8.54A	-
	I/P:230VAC	A	9.51A	-
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:115VAC O/P:20% LOAD	@82%Min	83.988	PASS
	I/P:230VAC O/P:20% LOAD	@82%Min	84.128	PASS
	I/P:115VAC O/P:50% LOAD	@85%Min	85.965	PASS
	I/P:230VAC O/P:50% LOAD	@85%Min	87.709	PASS
	I/P:115VAC O/P:100% LOAD	@82%Min	82.844	PASS
	I/P:230VAC O/P:100% LOAD	@82%Min	85.369	PASS
6.6. Line Regulation	I/P:90VAC~264VAC	<±5%	0.4%	PASS
6.7. Load Regulation	I/P:115VAC O/P:MIN~FULL LOAD	<±5%	2.6%	PASS
	I/P:230VAC O/P:MIN~FULL LOAD	<±5%	2.6%	PASS
6.8. Over-Voltage Protection	I/P:230VAC O/P:MIN LOAD	V1：13~18 (MAX)	-	-
6.9. Over-Circuit Protection	O/P: 5V	45A(MAX)	22A	PASS
6.10. Over-Load Protection	I/P:115VAC O/P:MIN LOAD	150%	127%	PASS
	I/P:230VAC O/P:MIN LOAD	150%	128%	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

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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
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 198VAC	-	PASS
6.14. Ripple & Noise	I/P:115VAC O/P:5V FULL LOAD	≦50mv	24.5mv	PASS
	I/P:230VAC O/P:5V FULL LOAD	≦50mv	24.4mv	PASS
6.15. Setup Time	I/P:90VAC O/P:FULL LOAD	S(MAX)	214.5ms	-
	I/P:230VAC O/P:FULL LOAD	S(MAX)	201.0ms	-
6.16. Hold up Time	I/P:115VAC O/P:FULL LOAD	14mS(MIN)	21.3ms	PASS
	I/P:230VAC O/P:FULL LOAD	14mS(MIN)	20.0ms	PASS
6.17. Rise Time	I/P:115VAC O/P:FULL LOAD	20mS(MAX)	13.376ms	PASS
	I/P:230VAC O/P:FULL LOAD	20mS(MAX)	13.686ms	PASS
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

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6.20. Remote ON/OFF	Simulate TTL signal to test this function			-
6.21. Power Good Signal	Shall go high level with a delay of100~500ms		-	-
6.22. Power On In Low Temperature	I/P:115VAC (0℃) After 2HR Power On			-
6.23. Power On In High Temperature	I/P:115VAC (℃)After 2HR Power On			-
6.24. System Power Consumption Test	No Run Prime95	I/P:100VAC 0.51A 49.8W	O/P: 3.3V/1.73A 5V/1.87A 12V/2.33A -12V/0.03A 5VSB/0.12A 43.979W	PASS
	Run Prime95	I/P:100VAC 1.27A 127.2W	O/P: 3.3V/1.73A 5V/3.21A 12V/7.7A -12V/0.03A 5VSB/0.12A 115.119W	PASS
	Sleep Mode(S3)	I/P:100VAC 0.08A 2.8W		PASS
	Standby Mode	I/P:100VAC 0.05A 2W		PASS

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