

FSP040-DGAA1 with FWS-2250 Power Electronics Test Report

Summary	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> 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
06/26/2014

Approval
Tom Lin

Test Engineer
Sean Hsu

Table of Contents

1. Project.....	3
2. Power Manufacturer	3
3. Team Member	3
4. Test Equipments	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-Current 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	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. On/Off Cycling	5
6.21. Adapter Power Consumption Test.....	5

1. Project

FSP040-DGAA1 AC-DC Power for FWS-2250

2. Power Manufacturer

FSP GROUP INC.

3. Team Member

PM : Jamie Chang ; RD : TB Fan

4. Test Equipments

4.1. CPU Board : AAEON , FWS-2250 REV.A0.2

4.2. CPU : INTEL , Celeron® Processor J1900 2.0GHZ

4.3. CFD : TRANSCEND , CF170 , 32GB

4.4. Memory : Transcend , DDR3-1333 2GB

4.5. Power Supply : FSP , M/N : FSP040-DGAA1 , O/P : 40Watt

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

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

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

5. AC Adapter Spec

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

DC Output : 12Vdc Min Load : 0A Full Load : 3.33A / 40W

6. Test Item

Test Item	Test Condition / Specification		Measured	Result
6.1. AC Input Current	I/P:90VAC	1.3A	0.82A	PASS
6.2. MAX Inrush Current	I/P:115VAC	A	9.65A	-
	I/P:230VAC	A	9.80A	-
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 FULL LOAD	@82%Min	83.620%	PASS
	I/P:230VAC FULL LOAD	@82%Min	84.450%	PASS
6.6. Line Regulation	I/P:90VAC~264VAC	<±5%	0.025%	PASS
6.7. Load Regulation	I/P:115VAC O/P:MINLOAD~FULL LOAD	<±5%	2.20%	PASS
	I/P:230VAC O/P:MINLOAD~FULL LOAD	<±5%	2.25%	PASS
6.8. Over-Voltage Protection	I/P:230VAC O/P:MIN LOAD	V1 : 22V(MAX)	-	-
6.9. Over-Current Protection	O/P: 12V	5.5A(MAX)	4.35A	PASS
6.10. Over-Load Protection	I/P:90VAC O/P:MIN LOAD	165%	129.5%	PASS
	I/P:115VAC O/P:MIN LOAD	165%	129.8%	PASS
	I/P:230VAC O/P:MIN LOAD	165%	128.5%	PASS
	I/P:264VAC O/P:MIN LOAD	165%	130%	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 132VAC	-	PASS
	O/P: FULL LOAD	Surge voltage from 264VAC to 293VAC (0.5sec), back to 264VAC	-	PASS

FSP040-DGAA1AC of FWS-2250 Power Electronics Test Report

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:FULL LOAD	$\leq 120\text{mv}$	118.5 mv	PASS
	I/P:230VAC O/P:FULL LOAD	$\leq 120\text{mv}$	116mv	PASS
6.15. Setup Time	I/P:115VAC O/P:FULL LOAD	4S(MAX)	1.328S	PASS
	I/P:230VAC O/P:FULL LOAD	S(MAX)	86.3mS	-
6.16. Hold up Time	I/P:115VAC O/P:FULL LOAD	5mS(MIN)	12.6mS	PASS
	I/P:230VAC O/P:FULL LOAD	mS(MIN)	86.3mS	-
6.17. Rise Time	I/P:115VAC O/P:FULL LOAD	mS(MAX)	8.8mS	-
	I/P:230VAC O/P:FULL LOAD	mS(MAX)	6.8mS	-
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. On/Off Cycling	Times / on: 20 sec / off: 10 sec			-
6.21. Adapter Power Consumption Test	No Run Prime95	I/P:100VAC 0.29A 13.1W	O/P: 12V/0.88A 10.56W	PASS
	Run Prime95	I/P:100VAC 0.39.A 17.1W	O/P: 12V1.21A 14.52W	PASS
	Sleep Mode(S3)	I/P:100VAC 0.03A 1.3W		PASS
	OFF Mode	I/P:100VAC 0.03A 1.0W		PASS