

Report NO: 12P0A0004\_I

# FSP084-DMAA1 of AEC-6636 Power Electronics Test Report

Summary	<input checked="" type="checkbox"/> <b>Pass</b> <input type="checkbox"/> <b>Fail</b> <input type="checkbox"/> <b>Pass with Deviation</b> <b>Comment:</b> _____			
<b>Test Result Summary</b>				
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	0
Defect Unsolved	0	0	0	0

Issue date	Approval	Test Engineer
<b>05/09/2012</b>	<b>Vincent Chen</b>	<b>Sean Hsu</b>

## Table of Contents

1. Project .....	3
2. Power Manufacturer .....	3
3. Team Member .....	3
4. Test Equipment .....	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-Circuit Protection .....	4
6.10. Over-Load Protection .....	4
6.11. Short Circuit Protect .....	4
6.12. Line Voltage Surge .....	5
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. Remote ON/OFF .....	5
6.21. Power Good Signal .....	5
6.22. System Power Consumption Test .....	5

**1. Project**

FSP084-DMAA1 AC-DC Adapter for AEC-6636 CPU : INTEL Core I5-2510E 2.5GHz

**2. Power Manufacturer**

FSP

**3. Team Member**

PM : Jackie Huang ; EE : Ares Wu ; ME : Shin Yeh

**4. Test Equipment**

4.1. CPU Board : GENE-QM67 BIOS REV. R1.0(03/16/2012)

4.2. HDD : Toshiba , MK2565GSX 250GB

4.3. MEMORY : Panram , DDR3-1333 8GB

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

4.5. Power Supply : FSP , Model : FSP084-DMAA1 , O/P : 12V/7A , 84Watt

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

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

**5. AC Adapter Spec**

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

DC Output : 12Vdc Min Load : 0A Full Load : 7A / 84W

## 6. Test Item

Test Item	Test Condition / Specification		Sanction	
			Measured	Result
6.1. AC Input Current	I/P:115VAC	1.3A	0.98A	PASS
6.2. MAX Inrush Current	I/P:115VAC	A	4.65A	-
	I/P:230VAC	A	6.38A	-
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 O/P:5A	@83%Min	86.20%	PASS
	I/P:115VAC O/P:5A	@83%Min	87.42%	PASS
	I/P:230VAC O/P:5A	@83%Min	87.18%	PASS
	I/P:264VAC O/P:5A	@83%Min	86.75%	PASS
6.6. Line Regulation	I/P:90VAC~264VAC	<%	0.042%	-
6.7. Load Regulation	I/P:115VAC O/P:MIN~FULL LOAD	<%	1.98%	-
	I/P:230VAC O/P:MIN~FULL LOAD	<%	2.042%	-
6.8. Over-Voltage Protection	I/P:230VAC O/P:MIN LOAD	V1 : 17 (MAX)	-	-
6.9. Over-Circuit Protection	O/P: 12V	9.4A(MAX)	8.6A	PASS
6.10. Over-Load Protection	I/P:90VAC O/P:MIN LOAD	135%	121%	PASS
	I/P:115VAC O/P:MIN LOAD	135%	122%	PASS
	I/P:230VAC O/P:MIN LOAD	135%	125%	PASS
	I/P:264VAC O/P:MIN LOAD	135%	126%	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

<b>6.12. Line Voltage Surge</b>	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
<b>6.13. Line Voltage Sag</b>	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
<b>6.14. Ripple &amp; Noise</b>	I/P:115VAC O/P:FULL LOAD	$\leq 150\text{mv}$	118.9mv	PASS
	I/P:230VAC O/P:FULL LOAD	$\leq 150\text{mv}$	96.8mv	PASS
<b>6.15. Setup Time</b>	I/P:115VAC O/P:FULL LOAD	3S(MAX)	740ms	PASS
	I/P:230VAC O/P:FULL LOAD	mS(MAX)	518ms	PASS
<b>6.16. Hold up Time</b>	I/P:115VAC O/P:FULL LOAD	20mS(MIN)	35.6ms	PASS
	I/P:230VAC O/P:FULL LOAD	mS(MIN)	87.5ms	PASS
<b>6.17. Rise Time</b>	I/P:115VAC O/P:FULL LOAD	mS(MAX)	4.86ms	PASS
	I/P:230VAC O/P:FULL LOAD	mS(MAX)	5.86ms	PASS
<b>6.18. Turn on Overshoot</b>	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
<b>6.19. Turn off Undershoot</b>	Turn off undershoot shall not exceed 10% over nominal voltages		-	PASS
	Turn off undershoot shall not exceed 10% over nominal voltages		-	PASS
<b>6.20. Remote ON/OFF</b>	Simulate TTL signal to test this function		-	-
<b>6.21. Power Good Signal</b>	Shall go high level with a delay of100~500ms		-	-
<b>6.22. System Power Consumption Test</b>	No Run Prime95	I/P:100VAC 0.28A 15.0W	O/P: 12V/0.8A	PASS
	Run Prime95	I/P:100VAC 0.41A 42.3W	O/P: 12V/3.3A	PASS