

Report NO: 14P0A0011\_I

# FSP060-DBAE1

## With

# BOXER-6403

## 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>				
Test Result Summary				
	Critical	Major	Minor	Enhancement
Defect Found	0	0	0	0
Defect Unsolved	0	0	0	0

Issue date  
12/01/2014

Approval  
Tom Lin

Test Engineer  
Sean Hsu

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**1. Project**

FSP060-DBAE1 AC-DC Adapter for BOXER-6403

**2. Power Manufacturer**

FSP

**3. Team Member**

PM : Ray Chang ; H/W : Ying Chiang

**3. Test Equipment**

4.1. CPU Board : AAEON , BOXER-6403 A1.0 BIOS:R0.6(B403AM06)11/18/2014

4.2. CPU : INTEL , ATOM J1900 2GHz

4.3. m-SATA : TOSHIBA , 16GB

4.4. Memory : InnoDisk , DDR3- 1333 4GB

4.5. Power Supply : FSP , M/N : FSP060-DBAE1 , O/P : 60Watt

4.6. LCD Monitor : CHIMEI , Model : 22SH-L

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 : 5A / 60W

## 6. Test Item

Test Item	Test Condition / Specification		Sanction	
			Measured	Result
6.1. AC Input Current	I/P:90VAC	1.5A	1.4A	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:90VAC O/P:5A	@%Min	86.371%	-
	I/P:115VAC O/P:5A	@87%Min	87.386%	PASS
	I/P:230VAC O/P:5A	@87%Min	88.387%	PASS
	I/P:264VAC O/P:5A	@%Min	88.219%	-
6.6. Line Regulation	I/P:90VAC~264VAC	<±3%	0.4%	PASS
6.7. Load Regulation	I/P:115VAC O/P:MIN~FULL LOAD	<±5%	4.375%	PASS
	I/P:230VAC O/P:MIN~FULL LOAD	<±5%	4.483%	PASS
6.8. Over-Voltage Protection	I/P:230VAC O/P:MIN LOAD	V1 : 13~18 (MAX)	-	-
6.9. Over-Current Protection	O/P: 12V	10A(MAX)	6.2A	PASS
6.10. Over-Load Protection	I/P:90VAC O/P:MIN LOAD	200%	124%	PASS
	I/P:115VAC O/P:MIN LOAD	200%	134.4%	PASS
	I/P:230VAC O/P:MIN LOAD	200%	138.4%	PASS
	I/P:264VAC O/P:MIN LOAD	200%	138%	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
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	$\leq 150\text{mv}$	93.8mv	PASS
	I/P:230VAC O/P:FULL LOAD	$\leq 150\text{mv}$	89.1mv	PASS
6.15. Setup Time	I/P:90VAC O/P:FULL LOAD	3S(MAX)	1.27ms	PASS
	I/P:230VAC O/P:FULL LOAD	mS(MAX)	670ms	-
6.16. Hold up Time	I/P:115VAC O/P:FULL LOAD	8mS(MIN)	22ms	PASS
	I/P:230VAC O/P:FULL LOAD	20mS(MIN)	52.4ms	PASS
6.17. Rise Time	I/P:115VAC O/P:FULL LOAD	40mS(MAX)	14.1ms	PASS
	I/P:230VAC O/P:FULL LOAD	mS(MAX)	11.2ms	-
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 ( °C )After 2HR Power On			-
6.24. System Power Consumption Test	No Run Prime95	I/P:100VAC 0.16A 6.7W	O/P: 12V/0.45A 5.4W	PASS
	Run Prime95	I/P:100VAC 0.28A 12.4W	O/P: 12V/0.95A 11.4W	PASS
	Sleep Mode	I/P:100VAC 0.03A 1.7W		PASS
	Off Mode	I/P:100VAC 0.03A 1.4W		PASS