

# FSP060-DIBAN2

## with

# BOXER-6638U

## 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  
**01/21/2016**

QE manager  
**KJ Wang**

Test Engineer  
**Mike Lee**

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**1. Project**

FSP060-DIBAN2 AC-DC Adapter for BOXER-6638U

**2. Power Manufacturer**

FSP

**3. Team Member**

PM : Tim Lin ; H/W : VC Chang

**4. Test Equipment**

4.1. LCD Monitor : ASUS , Model : VE228

4.2. PCB Board : EPIC-BDU7 Rev. A1.0

4.3. CPU : Intel® Core™ i3-5010U CPU @ 2.10GHz

4.4. SATA HDD : TOSHIBA 2.5" SATA HDD 100GB - MK1060GSC

4.5. Memory : MEMPHIS DDR3L 1600 2GB (D3SO256M646GLI-E261A)

**5. AC Adapter Spec**

AC Input : 90VAC~264VAC / 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	1.31A	PASS
6.2. MAX Inrush Current	I/P:115VAC	A	A	-
	I/P:230VAC	A	A	-
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:5A	@88%Min Average Efficiency(for four Load)	88.231%	PASS
	I/P:230VAC O/P:5A	@88%MinAverage Efficiency(for four Load)	88.237%	PASS
6.6. Line Regulation	I/P:90VAC~264VAC	<±1%	0.083%	PASS
6.7. Load Regulation	I/P:115VAC O/P:MIN~FULL LOAD	<±5%	3.23%	PASS
	I/P:230VAC O/P:MIN~FULL LOAD	<±5%	2.525%	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)	6.5A	PASS
6.10. Over-Load Protection	I/P:90VAC O/P:MIN LOAD	200%	121.8%	PASS
	I/P:115VAC O/P:MIN LOAD	200%	130%	PASS
	I/P:230VAC O/P:MIN LOAD	200%	134%	PASS
	I/P:264VAC O/P:MIN LOAD	200%	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

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	$\leq 150\text{mv}$	48.4mv	PASS
	I/P:230VAC O/P:FULL LOAD	$\leq 150\text{mv}$	48.4mv	PASS
6.15. Setup Time	I/P:90VAC O/P:FULL LOAD	3S(MAX)	1.2ms	PASS
	I/P:230VAC O/P:FULL LOAD	mS(MAX)	748ms	-
6.16. Hold up Time	I/P:115VAC O/P:FULL LOAD	8mS(MIN)	19.2ms	PASS
	I/P:230VAC O/P:FULL LOAD	20mS(MIN)	55ms	PASS
6.17. Rise Time	I/P:115VAC O/P:FULL LOAD	40mS(MAX)	10.132ms	PASS
	I/P:230VAC O/P:FULL LOAD	mS(MAX)	9.207ms	-
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 Consumption Test with DC Power	No Run Prime 95	I/P:9VDC 0.51A 4.59W		PASS
	Run Prime 95	I/P:9VDC 2.05A 18.45W		PASS
	No Run Prime 95	I/P:12VDC 0.37A 4.44W		PASS
	Run Prime 95	I/P:12VDC 1.58A 18.96W		PASS
	No Run Prime 95	I/P:24VDC 0.22A 5.28W		PASS
	Run Prime 95	I/P:24VDC 0.82A 19.68W		PASS
6.23. Power Consumption Test with AC Adapter	No Run Prime95	I/P:100VAC/0.14A 5.6W	O/P:12V/0.41A 4.92W	PASS
	Run Prime 95	I/P:100VAC/0.46A 20.5W	O/P:12V/1.53A 18.36W	PASS