Report No: 16P0A0010_I

FSP060-DIBAN2

with

BOXER-6421

Power Electronics Test Report

Summary	☑ **Pass** ☐ **Fail** ☐ **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	QE manager	Test Engineer
06/07/2016	**KJ Wang**	**Mike Lee**

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1. Project

FSP060-DIBAN2 AC-DC Adapter for BOXER-6421

2. Power Manufacturer

FSP

3. Team Member

PM：Ray Chang；H/W：Jack Peng

4. Test Equipment

4.1. LCD Monitor：ASUS，Model：VE228

4.2. PCB Board：PBA-IMX6 Rev. A0.3

4.3. CPU：Freescale iMX6 Dual Lite-Auto grade 1.0GHz

4.4. eMMC：Onboard eMMC 8GB

4.5. Memory：Onboard DDR3 1GB

5. AC Adapter Spec

AC Input：90VAC~264VAC / 47Hz~63Hz

DC Output：12VDC Min Load：0A Full Load：5A / 60W

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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

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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:FULL LOAD	≦150mv	48.4mv	PASS
	I/P:230VAC O/P:FULL LOAD	≦150mv	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 of100~500ms		-	-
6.22. Power Consumption Test with DC Power	No Run BurnIn	I/P:7VDC 1.12A 7.84W		PASS
	Run BurnIn	I/P:7VDC 1.26A 8.82W		PASS
	No Run BurnIn	I/P:12VDC 0.66A 7.92W		PASS
	Run BurnIn	I/P:12VDC 0.75A 9.00W		PASS
	No Run BurnIn	I/P:24VDC 0.34A 8.16W		PASS
	Run BurnIn	I/P:24VDC 0.38A 9.12W		PASS
6.23. Power Consumption Test with AC Adapter	No Run BurnIn	I/P:100VAC 0.22A 9.5W	O/P：12V/0.69A 8.28W	PASS
	Run BurnIn	I/P:100VAC 0.24A 10.6W	O/P：12V/0.76A 9.12W	PASS

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