Report No: 16P0A0011_I

FSP120-ABAN2
with
BOXER-6639
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
06/08/2016	**KJ Wang**	**Mike Lee**

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1. Project

FSP120-ABAN2 AC-DC Adapter for BOXER-6639

2. Power Manufacturer

FSP

3. Team Member

PM：Ray Chang；H/W：Kevin Yu

4. Test Equipment

4.1. LCD Monitor：ASUS，Model：VE228
4.2. PCB Board：AAEON，PBA-SKS01 Rev A0.1
4.3. CPU：Intel® Core™ i7-6700TE CPU @ 2.40GHz
4.4. HDD：TOSHIBA 2.5” SATA HDD 100GB - MK1060GSC
4.5. Memory：innodisk DDR4 2133 16GB - SEC534 K4A8G08 5WB BCPB x2
4.6. Power Supply：DC 9~36V (9V use PSW 160-21.6 (GWINSTEK))

5. AC Adapter Spec

AC Input：90VAC~264VAC / 47Hz~63Hz
DC Output：19VDC Min Load：0A　Full Load：6.32A / 120.08W

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6. Test Item

Test Item	Test Condition / Specification		Sanction	
			Measured	Result
6.1. AC Input Current	I/P:100VAC	≦1.8A	1.31A	PASS
	I/P:240VAC	≦1.8A	0.57A	PASS
6.2. MAX Inrush Current	I/P:100VAC	A	7.81A	-
	I/P:240VAC	A	8.52A	-
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:100VAC O/P:6.32 A	@≧87%Min Average Efficiency	90.464%	PASS
	I/P:240VAC O/P:6.32A	@≧89%MinAverage Efficiency	91.726%	PASS
6.6. Line Regulation	I/P:100VAC~240VAC	<±5%	0	PASS
6.7. Load Regulation	I/P:100VAC O/P:MIN~FULL LOAD	<±5%	-1.832%	PASS
	I/P:240VAC O/P:MIN~FULL LOAD	<±5%	-1.789%	PASS
6.8. Over-Voltage Protection	I/P:240VAC O/P:MIN LOAD	29V (MAX)	-	-
6.9. Over-Current Protection	O/P: 19V	-	8.5A	-
6.10. Over-Load Protection	I/P:100VAC O/P:MIN LOAD	-	134%	-
	I/P:240VAC O/P:MIN LOAD	-	134%	-
6.11. Short Circuit Protect	I/P:100VAC O/P:MIN LOAD	19V&GND Short	-	PASS
	I/P:240VAC O/P:MIN LOAD	19V&GND Short	-	PASS

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6.12. Ripple & Noise	I/P:100VAC O/P:FULL LOAD	≦350m Vp-p	160.9mv	PASS
	I/P:240VAC O/P:FULL LOAD	≦350m Vp-p	140.6mv	PASS
6.13. Turn-On Delay Time	I/P:100VAC O/P:FULL LOAD	≦3Sec(MAX)	642.5ms	PASS
6.14. Hold up Time	I/P:100VAC O/P:FULL LOAD	≧10mS(MIN)	30.9ms	PASS
	I/P:240VAC O/P:FULL LOAD	≧10mS(MIN)	65.25ms	PASS
6.15. Rise Time	I/P:100VAC O/P:FULL LOAD	≦50mS(MAX)	16.3ms	PASS
6.16. Turn on Overshoot	Turn on overshoot shall not exceed 10% over nominal voltages@ 0 % & MAX LOAD		-	PASS
	Turn on overshoot shall not exceed 10% over nominal voltages@ 0 % & MAX LOAD		-	PASS
6.17. 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
6.18. Power Consumption Test with DC Power	No Run Prime 95	I/P:9VDC 1.92A 17.28W		PASS
	Run Prime 95	I/P:9VDC 7.34A 66.06W		PASS
	No Run Prime 95	I/P:12VDC 1.36A 16.32W		PASS
	Run Prime 95	I/P:12VDC 5.48A 65.76W		PASS
	No Run Prime 95	I/P:24VDC 0.74A 17.76W		PASS
	Run Prime 95	I/P:24VDC 2.62A 62.88W		PASS
	No Run Prime 95	I/P:36VDC 0.46A 16.56W		PASS
	Run Prime 95	I/P:36VDC 1.78A 64.08W		PASS
6.19. Power Consumption Test with AC Adapter	No Run Prime95	I/P:100VAC 0.37A 17.5W	O/P：19V/0.86A 16.34W	PASS
	Run Prime 95	I/P:100VAC 0.71A 70.4W	O/P：19V/3.47A 65.93W	PASS
	Sleep mode(S3)	I/P:100VAC 0.05A 2.1W	O/P：19V/0.10A 1.9W	PASS
	Off mode	I/P:100VAC 0.03A 1.4W	O/P：19V/0.06A 1.14W	PASS

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