

Report No: 16P0A0008\_I

# FSP120-ABAN2

## with

# OMNI-3105-BT

## 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  
**06/04/2015**

QE manager  
**KJ Wang**

Test Engineer  
**Mike Lee**

## 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-Current Protection .....	4
6.10. Over-Load Protection .....	4
6.11. Short Circuit Protect.....	4
6.12. Ripple & Noise.....	5
6.13. Turn-On Delay Time.....	5
6.14. Hold up Time.....	5
6.15. Rise Time.....	5
6.16. Turn on Overshoot .....	5
6.17. Turn off Undershoot .....	5
6.18. Power Consumption Test with DC Power .....	5
6.19. Power Consumption Test with AC Adapter .....	5

**1. Project**

FSP120-ABAN2 AC-DC Adapter for OMNI-3105-BT

**2. Power Manufacturer**

FSP

**3. Team Member**

PM : CS Chen ; H/W : Peter Yao

**4. Test Equipment**

4.1. LCD Monitor : AUO , Model : G104SN03 V5

4.2. PCB Board : AAEON , PBA-BT03 Rev B0.1

4.3. CPU : Intel ® Celeron ® CPU J1900 @ 1.99GHz

4.4. HDD : TOSHIBA 2.5" SATA HDD 320GB - MQ01ABF032

4.5. Memory : Memphis DDR3L 1600 2GB - IM4G16D3FABG-125I

4.6. Power Supply : DC 9~30V (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

## 6. Test Item

Test Item	Test Condition / Specification		Sanction	
			Measured	Result
6.1. AC Input Current	I/P:100VAC	$\leq 1.8A$	1.31A	PASS
	I/P:240VAC	$\leq 1.8A$	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	@ $\geq 87\%$ Min Average Efficiency	90.464%	PASS
	I/P:240VAC O/P:6.32A	@ $\geq 89\%$ MinAverage Efficiency	91.726%	PASS
6.6. Line Regulation	I/P:100VAC~240VAC	< $\pm 5\%$	0	PASS
6.7. Load Regulation	I/P:100VAC O/P:MIN~FULL LOAD	< $\pm 5\%$	-1.832%	PASS
	I/P:240VAC O/P:MIN~FULL LOAD	< $\pm 5\%$	-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

6.12. Ripple & Noise	I/P:100VAC O/P:FULL LOAD	$\leq 350m$ Vp-p	160.9mv	PASS
	I/P:240VAC O/P:FULL LOAD	$\leq 350m$ Vp-p	140.6mv	PASS
6.13. Turn-On Delay Time	I/P:100VAC O/P:FULL LOAD	$\leq 3Sec$ (MAX)	642.5ms	PASS
6.14. Hold up Time	I/P:100VAC O/P:FULL LOAD	$\geq 10mS$ (MIN)	30.9ms	PASS
	I/P:240VAC O/P:FULL LOAD	$\geq 10mS$ (MIN)	65.25ms	PASS
6.15. Rise Time	I/P:100VAC O/P:FULL LOAD	$\leq 50mS$ (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 1.34A 12.06W		PASS
	Run Prime 95	I/P:9VDC 1.99A 17.91W		PASS
	No Run Prime 95	I/P:12VDC 1.03A 12.36W		PASS
	Run Prime 95	I/P:12VDC 1.49A 17.88W		PASS
	No Run Prime 95	I/P:24VDC 0.52A 12.48W		PASS
	Run Prime 95	I/P:24VDC 0.75A 18.0W		PASS
	No Run Prime 95	I/P:30VDC 0.43A 12.9W		PASS
	Run Prime 95	I/P:30VDC 0.63A 18.9W		PASS
6.19. Power Consumption Test with AC Adapter	No Run Prime95	I/P:100VAC 0.29A 13.4W	O/P : 19V/0.63A 11.97W	PASS
	Run Prime 95	I/P:100VAC 0.45A 21.1W	O/P : 19V/1.01A 19.19W	PASS
	Sleep mode(S3)	I/P:100VAC 0.03A 1.5W	O/P : 19V/0.07A 1.33W	PASS
	Off mode	I/P:100VAC 0.03A 1.1W	O/P : 19V/0.05A 0.95W	PASS