

Report NO: 12E0A0002_I

FSP120-AHAN1 of TKS-G50-QM77 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	Approval	Test Engineer
06/15/2012	Vincent Chen	Sean Hsu

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-Circuit Protection	4
6.10. Over-Load Protection	4
6.11. Short Circuit Protect	4
6.12. Line Voltage Surge	5
6.13. Line Voltage Sag	5
6.14. Ripple & Noise	5
6.15. Setup Time	5
6.16. Hold up Time	5
6.17. Rise Time	5
6.18. Turn on Overshoot	5
6.19. Turn off Undershoot	5
6.20. Remote ON/OFF	5
6.21. Power Good Signal	5
6.22. System Power Consumption Test	5

1. Project

FSP120-AHAN1 AC-DC Adapter for TKS-G50-QM77 INTEL Core I7-3610QE 2.3GHz

2. Power Manufacturer

FSP

3. Team Member

PM : Joe Lin ; RD : Vic Lin

4. Test Equipment

4.1. CPU Board : GENE-QM77 REV.A1.0 BIOS Rev : R0.3 TG77AM03(05/17/2012)

4.2. HDD : TOSHIBA SATA2 2.5" 100GB-MK1060GSC

4.3. Memory : Transcend DDR3 1333 8GB CL9-SEC 207 HYKO K4B4G0846B

4.4. LCD Monitor : CHIMEI , Model : A170E2-T08

4.5. Power Supply : FSP , Model : FSP120-AHAN1 , O/P : 12V/10A , 120Watt

4.6. USB Keyboard : Logitech , Model : Y-BL49

4.7. USB Mouse : Logitech , Model : M-BT85

5. AC Adapter Spec

AC Input : 100VAC~240VAC / 47Hz~63Hz

DC Output : 12Vdc Min Load : 0A Full Load : 10A / 120W

6. Test Item

Test Item	Test Condition / Specification		Sanction	
			Measured	Result
6.1. AC Input Current	I/P:100VAC	2A	1.34A	PASS
6.2. MAX Inrush Current	I/P:100VAC	A	7.94A	-
	I/P:240VAC	A	11.4A	-
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:10A	@86%Min	87.248%	PASS
	I/P:240VAC O/P:10A	@87%Min	89.514%	PASS
6.6. Line Regulation	I/P:90VAC~264VAC	<5%	0.67%	PASS
6.7. Load Regulation	I/P:100VAC O/P:MIN~FULL LOAD	<5%	1/-2.5%	PASS
	I/P:240VAC O/P:MIN~FULL LOAD	<5%	1.017/-1.83%	PASS
6.8. Over-Voltage Protection	I/P:230VAC O/P:MIN LOAD	V1 : 17 (MAX)	-	-
6.9. Over-Circuit Protection	O/P: 12V	9.4A(MAX)	13.2A	-
6.10. Over-Load Protection	I/P:100VAC O/P:MIN LOAD	%	110%	-
	I/P:240VAC O/P:MIN LOAD	%	141%	-
6.11. Short Circuit Protect	I/P:100VAC O/P:MIN LOAD	12V&GND Short	-	PASS
	I/P:240VAC 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:100VAC O/P:FULL LOAD	$\leq 380\text{mv}$	147mv	PASS
	I/P:240VAC O/P:FULL LOAD	$\leq 380\text{mv}$	143mv	PASS
6.15. Setup Time	I/P:100VAC O/P:FULL LOAD	3S(MAX)	982.5ms	PASS
	I/P:240VAC O/P:FULL LOAD	mS(MAX)	513ms	PASS
6.16. Hold up Time	I/P:100VAC O/P:FULL LOAD	5mS(MIN)	12.55ms	PASS
	I/P:240VAC O/P:FULL LOAD	mS(MIN)	26.75ms	PASS
6.17. Rise Time	I/P:100VAC O/P:FULL LOAD	50mS(MAX)	8.34ms	PASS
	I/P:240VAC O/P:FULL LOAD	mS(MAX)	8.305ms	PASS
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. System Power Consumption Test	No Run Prime95	I/P:100VAC 0.19A 15.3W	O/P: 12V/1.05A	PASS
	Run Prime95	I/P:100VAC 0.55A 55.5W	O/P: 12V/4.05A	PASS